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A VISIT TO THE STATES.

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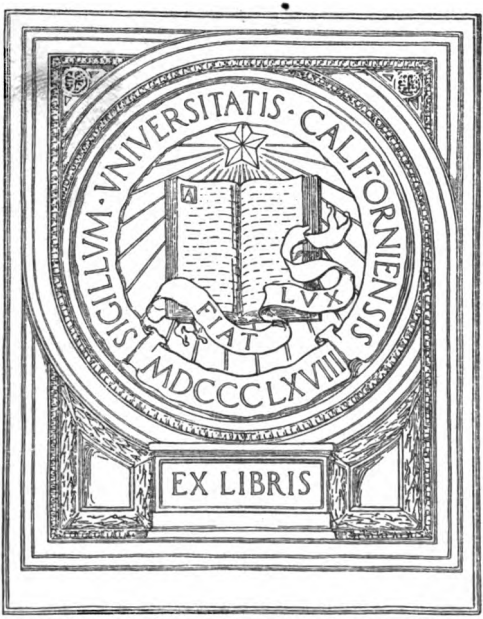

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A VISIT TO THE STATES.

A REPRINT OF LETTERS

FROM

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OF

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A VISIT TO THE STATES.

I.—ENTERING NEW YORK HARBOUR.

The great Atlantic ocean ferry is a wonderful institution. Sometimes a hundred huge vessels are crossing between Fastnet Rock and Sandy Hook. For nearly half a century two of the most absorbing problems of marine engineering have been how to quicken speed and economize fuel—problems always being solved, yet ever invoking new solutions. The greatest triumphs of marine architecture have been achieved in building the magnificent floating palaces for this Atlantic ferry, which has its unending processions of stately ships swiftly moving in both directions. A week's journey on one of the grandest steamers of England's fleet across the trackless waste brought us close to the American coasts. Through storm and fog, against gales and waves, the vessel had been steadily driven, at times rolling and tossing, and again gliding upon smoother waters, the great screw quickly turning with scarcely an interruption day and night. An army of stokers poured coals under the boilers, and toiling and sweltering far below the decks kept up the power necessary

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to drive the ocean racer. The ponderous engines had revolved nearly half a million times when they were briefly halted in the night to take the Sandy Hook pilot aboard the steamer off the shoals that border the once famous headquarters of the now almost extinct American whale fishery—the island of Nantucket. Then, as the night wore on, anxious eyes were on the look-out for land, and ultimately it was sighted just at the dawning—a far-away flashing white light off to the north-west, seen above a long low sand strip known as Fire Island beach, on the coast of Long Island. Then, as the morning broke, was seen ahead, gradually rising, as if from the sea and mist, the Highlands of the Navesink, a part of the New Jersey shore, their colour slowly developing as approached from hazy blue to a deep green, with a pair of twin lighthouses perched upon their slopes. As the sunlight came across the water, there could be seen stretching northward from these Highlands, and apparently right across the steamer's path, a long strip of yellow sand, partly wooded and having another lighthouse on its outer end. This was the goal of the ocean voyage, the narrow peninsula of Sandy Hook protecting the harbour of New York.

A remarkable contrast exists between the grand steamer of thousands of tons that slackened speed, and with line and lead carefully felt the bottom as the sand strip was approached, to see if water enough could be got to cross the bar, finally anchoring to await the higher tide, and the earliest vessels seeking a haven behind the "Hook." A legend exists that Verrazzani, the Florentine, first looked upon the magnificent Navesink Highlands and entered New York Bay as early as 1524. This, however, is a disputed story, and the authentic discoverer now universally

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recognized was the redoubtable Hendrick Hudson. Searching along the American coasts in his fifty-ton ship for that mysterious "North-West Passage" which, during centuries, our maritime ancestors thought the road to commercial wealth, Hudson entered New York Bay in September, 1609. He was sure he had found the long sought route to the Indies, and explored the great river for many miles to the northward, taking possession of the country for the Dutch, whom he served. He had originally sailed from Amsterdam, and hence the Dutch colony afterwards planted upon the island in the river became known as New Amsterdam. From the Indian tribe inhabiting it the island was named Manhattan, while the land across the East River was called Nassau, the earliest name of Long Island. It took five years after Hudson's first arrival at what he named the "River of the Mountains" to found on the lower end of Manhattan the nucleus of the colony, which, when begun in 1614, consisted of a small palisaded fort and four little houses near by. Thus originated the Dutch aristocracy of New York, whose descendants, known as the "Knickerbockers," have impressed their peculiarities upon the American metropolis, though, in this later and prosaic generation, they are giving place to the army of immigrants and the newer and more pretentious aristocracy of wealth that now claims precedence in the modern city. The early colony grew but slowly, and 17 years after Hudson's arrival, Peter Minuit, the Dutch Governor, who was of a speculative turn, drove a sharp bargain with the Indians, and bought the whole of Manhattan Island from them for goods worth less than five pounds sterling. In 1644 the town numbered a thousand people, and a fence was constructed along what is now the line of Wall-street to mark

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its northern boundary. This fence ten years later was superseded by a palisade wall as a protection against the Indians, and this ultimately became the wall of the city. Fifty years after the foundation of the colony, in 1664, the Duke of York's expedition came over, ousted the Knickerbockers and Stuyvesants from the Government, took possession for England, and turned the name of New Amsterdam into New York. The city at that time had 384 houses, while in 1700 the population had expanded to about six thousand.

The rising tide soon giving enough water to cross the bar, the great steamer weighed anchor and slowly rounded the "Hook" and the lines of unfinished earthworks which may some day grow into a fortress for its defence. Then carefully threading the way around the shoals, it gradually turned its course northward and proceeded up the Lower Bay towards the Quarantine station. This Lower Bay of New York is one of the grandest harbours in the world—a triangular sheet of water, from nine to 12 miles on each side and almost completely landlocked. The shore of New Jersey makes its southern boundary, stretching back from the Navesink Highlands far westward into Raritan Bay, which is thrust up into the land between New Jersey and Staten Island. The green hills of Staten Island, crowned with villas and graced by parks and luxuriant foliage, make the north-western boundary of the bay. To the northward is the narrow entrance to the inner harbour, up through which glimpses can be seen of fleets of vessels and the cities in the distance. To the right hand of this contracted pass is the long and level sand strip of Coney Island, with its stretch of hotels and other buildings—the summer sea shore resort of the metropolis. This magnificent Lower Bay provides an anchorage ground covering

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eighty-eight square miles, while the pass through the Narrows leads to the inner harbour, an irregular oval-shaped body of water about five miles broad and eight miles long. The whole of New York Harbour, including the rivers on either side of the city, provides about 115 square miles of available anchorage—one of the greatest roadsteads. From Sandy Hook up through the Narrows to the Battery at the lower end of New York is about 18 miles, and two ship channels lead to the city, having 21 to 32 feet depth at low water. Passing the Quarantine, a range of low buildings, built on a shoal known as the West Bank of Romer, the steamer heads for the Narrows, where the hills of Staten Island and the opposite land of Long Island north of Gravesend Bay, which is behind Coney Island, gradually approach each other and contract the passage.

This famous pass of the Narrows has been formed by the mighty Hudson river forcing an outlet through a broken-down mountain range, and is barely a mile in width, being also partly obstructed by an island. The hill-tops and slopes on either side, together with this island, are occupied by the fortifications defending the entrance to New York. Formerly these consisted only of the olden-time stone works of Fort Lafayette, built on the island, and Fort Wadsworth on the western bank, with the ship channel between them, provision being made for its obstruction in the ancient method by a chain. These obsolete forts have in later years been superseded by more modern constructions on the hill-tops and slopes guarding the pass. The new works are known as Forts Hamilton and Tompkins, these names preserving the memories of two famous citizens of New York, one having been the First Secretary of the American Treasury, and the

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other a Governor of New York State and Vice-President of the United States. Above the forts on each hill-top the standard waves in the wind, giving the first view to the arriving traveller of the American Stars and Stripes. There can be seen the long lines of earthworks, with little black guns poking their forbidding muzzles out between the grass-covered mounds surmounting the intervening casemates. Below Fort Tompkins, by the water side on the Staten Island shore, is the old-fashioned bastioned gray stone fort of the earlier day, while on the Long Island side, in front of Fort Hamilton, is the little red sandstone Fort Lafayette, built on the reef that makes the island in the Narrows. This old fort is kept mainly as a relic of the troublous times during the late American Civil War, when it confined many famous political prisoners. Fires in the barracks have since scarred and blackened its walls. These defensive works at the New York Harbour entrance look formidable, but their systems of construction do not seem to have kept pace with modern improvements, and the more recent armoured ships, it is said, might readily run by them. Every little while a scare on the subject is started in New York city, which results in a demand by the newspapers and business exchanges that Congress shall give the port better defences, but the discussion thus far has not had much result. The Produce Exchange, which has a fine building in the lower part of the city, with a great square brick tower that stands as a landmark in coming up towards the Battery, made a special appeal on the subject last winter, being convinced that its tower would make an elegant target for hostile gunnery. It is quite possible that a liberal sowing of torpedoes on Sandy Hook bar, with other methods of blockading the passage, would

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prove an effective obstacle to the entrance of an enemy's ships before they got within range of the Narrows.

The steamer passes the forts and is soon ploughing the expanding waters of the Upper Bay. This splendid haven spreads out with the vast commerce of the city in full view, the greatest port of the New World. The scene is among the finest that eye can look upon. To the right hand is the Long Island shore, handsomely shaded, with pretty hamlets and villas peeping out from their screens of foliage. On the left hand the hills of Staten Island rise much higher, crowned with noble mansions, while bustling villages line the edge of the bay. The water presents a constantly changing panorama. Tall, white-sailed ships, swiftly moving, snorting and puffing tugs, great ark-like ferry boats of unique style, looking like houses built on rafts, large and stately steamboats with cabins tier above tier, graceful pleasure yachts, tall-masted and broad-sailed schooners, flotillas of barges and lighters, with fleets of vessels anchored, and representing all nationalities, are scattered over the wide expanse. A background is formed by the distant cities, and the steamer moves northward towards the statue of Liberty on Bedloe's Island, and the cluster of green foliage flanked by the round building of Castle Garden in the Battery-park. The pretty villages of Clifton and Stapleton are passed on Staten Island, with their fleet of yachts, while on the eastern side the villa-covered shores curve into the cove known as Gowann's Bay. Far away over the level land behind it can be seen the distant tombs of Greenwood Cemetery, on the borders of Brooklyn, where the dying New Yorker hopes to find his last resting-place. The shores of Gowann's Bay gradually develop into

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Brooklyn, which spreads out a sea of roofs beyond the jutting point north of the bay, with almost endless sky-reaching spires, the town fronted by long lines of docks and stores. Over on the western side the shores recede, and the strait that makes the boundary of Staten Island, which the Dutch named the Kill von Kull, stretches off into New Jersey, and leads around behind the island to Arthur Kill and the coal ports on its banks, where the great coal railways leading from the Pennsylvania mines have their shipping piers. Ahead of the steamer the statue of Liberty gradually grows with the approach into colossal proportions. Alongside it, and slightly to the right of the Battery, at the entrance to East River, rises Governor's Island, with its old-fashioned circular stone fort, looking rather the worse for wear, and known as "Castle William," and its long ranges of barracks and officers' quarters. This island is the headquarters of the most important command in the American Army, the "Military Division of the Atlantic," and the flag is flying over its modern defensive work, Fort Columbus, where a handful of blue-coats are on duty.

Upon nearing Governor's Island, Red Hook, the jutting point of Brooklyn, is passed, and suddenly opens up the East River, which flows between the two cities, with its borders of ocean shipping and the great East River bridge in the background. This strait connects the harbour with Long Island Sound, 20 miles distant, and through it is said to flow a large part of the tidal current of the Hudson River. The "Hell Gate Passage," near the entrance to the Sound, where the waters formerly boiled over the rocks, has been improved by very expensive rock excavations, which have cost vast sums of money. The

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East River is a great highway of commerce, and at its piers the larger portion of the deep sea shipping from distant voyages is found. The steamer passes between Bedloe's and Governor's Islands, and as the Hudson river is entered a good view is given, over the trees of the Battery-park, far up New York's chief street—Broadway—which stretches through the centre of the long and narrow city. Behind the trees on one side rises the big square tower of the Produce Exchange, and on the otherside the tall Washington-building at the commencement of Broadway, already about 15 stories high, with surmounting turrets, which its aspiring owner, Mr. Cyrus W. Field, still pushes skyward. The round building of Castle-garden adjoining the park was in the early part of this century built for a fort, and called Castle Clinton. It afterwards became a tea garden, and then a music-hall, patronized by the most fashionable New York society half a century ago, when the Battery was the city's principal park. It was here that Jenny Lind first sang in America. The place is now the emigration depôt. The park, with its curving sea-wall and old trees and well-kept lawns, looks attractive. Over on the New Jersey side the land, which has been distant, projects opposite Castle-garden to the point of Communipaw, and on that side for miles up the river the shore is occupied by the Jersey City railway terminals, making successions of docks, ferry houses, and grain elevators. The long projecting piers on the New York side stretch 500ft. to 600ft. out into the river, covered with substantial sheds to protect the goods, and having intervening docks for the shipping. Behind these piers there is a vast mass of the buildings of the city, some rising much above the rest, while the higher structures upon the elevated ground of

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Broadway stand out prominently. There is the tall and graceful spire of Trinity Church, with the towering domes of the Equitable Life Insurance building, and the Western Union Telegraph building, while far away rises the great dome of the New York Post Office. In the foreground is the huge square chimney of the Steam Supply Company, which furnishes steam for heat or power through pipes laid under the streets, and is said to be doing very good business. In the long stretch of docks which the steamer slowly passes the vessels are nearly all ocean steamships or large river steamboats, while ferry houses are numerous, and the crab-like ferry-boats moving across the stream sometimes come uncomfortably close. Thus progressing just off the ends of the long piers among the maze of steam vessels and craft of all kinds that are moving in every direction, probably the most lasting impression made is by the constant din and screech of the steam-whistles, most of them veritable fog-horns of all notes and degrees of intensity, which maintain a steady chorus of signals to aid progress through the crowded harbour. Gradually we slacken speed as the city passes in panorama, and the pier is reached that terminates the voyage. Several of the great Transatlantic lines have their docks together; and over on the New Jersey shore, almost opposite, is Hoboken, at the upper end of which, in strange contrast with the commercial aspect of everything around, the river-front rises in a bluff shore, on top of which is a delicious grove of trees running up into a low mound, whereon is built the Stevens Castle. This was the home of one of the railway pioneers of the country, who endowed the Stevens Institute of Technology at Hoboken, and also built a famous war-ship for New York harbour defence—the Stevens Battery.

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He bequeathed it to the State of New Jersey, and that thrifty commonwealth soon after sold it to the highest bidder for old iron. While looking across at Hoboken the long and unwieldy steamer is attacked by a bevy of quick-motioned little tugs, which slowly coax it around into the dock alongside the pier. Floating into the berth, it is made fast, while greetings are exchanged with the people on shore who have come down to welcome the arrival. The moment the gang-planks are fixed a crowd of stevedores rush aboard to carry off mail-bags and luggage, and as they noisily wrestle with sacks and boxes the unmistakable brogue gives plain testimony that the arrival is at "New Ireland" as well as at New York. The Customs officers examine the luggage, and then the passengers are free to go. Upon emerging from the wharf it seems as if Bedlam had broken loose when the horde of shouting and scuffling hackmen try to capture passengers and goods. Swooping down on their prey, those not trying to get possession are apparently anxious to drive their hacks over you. The street fronting the pier is West-street, a broad avenue that stretches along the Hudson river bank, with a row of low and irregular houses on the opposite side. It has several lines of railway, laid to accommodate both tramcars for passengers and steam locomotives hauling goods trains for the Vanderbilt railways. The street is muddy and almost impassable from the jam of vehicles of all kinds trying to move in various directions, while policemen sparsely distributed try to keep a semblance of order. It requires an effort to break through this struggling blockade, but the hack makes the plunge, and forcing a passage among the conglomeration of wagons, cars, people, horses, policemen, and mud, the gauntlet is run, and we rapidly

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drive along one street after another into the heart of New York. We jolt over the rough stones of the not too good pavements, and pass the usual nondescript purlieus that adjoin the docks of a great port. There are "saloons" and liquor shops in abundance, with many wooden houses interspersed among the brick buildings. We go under the elevated railways, where the steam trains rush swiftly along overhead, their roadway being perched up on rows of iron posts, and also cross repeated tramcar lines, the rails being poorly laid on the pavements and causing horrid jolts and jerks when the coach-wheels encounter them. Thence we move into a region of tenement houses, where the poorer population which so densely inhabits both the east and west sides of New York are compelled to live, generally in a condition of semi-squalor cooped in small apartments in the tall and populous buildings, where their prolific progeny play about the sidewalks and gutters, and the family wash is fluttering in the wind, being strung on high upon long clothes-lines running from window to window. The balcony systems of fire-escapes with iron ladders adorn the fronts of most of these buildings, for the law is strict in providing this, which often is the only means of rescue in the sudden fires to which these tenements are subject.

Driving to Washington-square, we pass through it into Fifth-avenue, thus in almost an instant changing from the humble abodes of the poor to the regions of fashion and wealth. Rolling smoothly along this great street, we are soon at Madison-square, and halt at our hotel in what may be regarded as the centre of the metropolis. Fifth-avenue, which runs towards the north, is crossed at right angles by Twenty-third-street, also a wide thoroughfare, and the intersection is

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crossed diagonally by Broadway coming up from the south. This union of celebrated streets has laid out adjoining it an open square, covering about six acres, with fine trees, lawns, and footwalks. Surrounded by large hotels and famous buildings, this is probably the best place for the visitor to get his first impressions of the wonders and attractions of New York; for to the northward Fifth-avenue stretches with its rows of magnificent brown-stone residences, while Broadway in both directions is the home of business and sends up a ceaseless roar from its constant traffic. They are both wide streets, and are filled from dawn till midnight with crowds of people and vehicles, the brilliancy of the electric lights in and around the square making the night almost as bright as day. The yellow tramcars move along Broadway upon the road whose franchise was got by Jacob Sharp's notorious bribery of the New York aldermen, several of whom, as well as Sharp himself, have been gaoled for their share in the knavery. Just alongside the intersection of Broadway and Fifth-avenue is the monument to General Worth, a granite shaft erected in memory of a hero who fell in the American war against Mexico forty years ago, and to the plateau whereon it stands the President and other high dignitaries come to review New York's elaborate military and other displays. Bronze statues of Admiral Farragut and William H. Seward also adorn the square. Madison-square occupies in New York much the position of the Place de la Concorde in Paris, though its adjacent palaces are mainly great hotels. At the north-west corner is Delmonico's famous restaurant, whose owner, after feeding the *jeunesse dorée* of New York upon the choicest viands for many years, wandered half-demented over into the wilderness of New

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Jersey, and, getting lost in the woods, died of starvation. On the west side is a row of stately hotels, the Fifth-avenue Hotel, with its white marble front, being the most imposing, while just above is the Hoffman House, noted as containing the most gorgeously appointed drinking saloon on the continent, where high art in painting, sculpture, and rich decoration is invoked by the Quaker proprietor to give a relish to "American drinks," concocted in seductive form at stiff prices. Fine residences and shops, picture galleries, restaurants, and hotels are in abundance around this celebrated square; and the adjoining streets abound in churches, theatres, and popular resorts. Madison-square, in fact, is the social and fashionable centre of modern New York, where its Parisian air and constant life and animation show how vigorously and successfully the Old World examples can be reproduced in the American metropolis.

II.—A STROLL DOWN BROADWAY.

NEW YORK.

The rapid growth of the American metropolis has expanded it beyond the original limits of Manhattan Island, so that the population has overflowed to the adjacent regions. The long and narrow island stretches about 13 miles, while it is not much over two miles broad in the widest part, and in some places, particularly the upper portion, narrows to a few hundred yards. The corporate limits of New York city are extended over the mainland to the north and east of this upper portion, so that, while the island area is about 22 square miles, the city covers 41 square miles, and

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its boundary goes four miles eastward from the Hudson to a little stream known as Bronx river. The Harlem river and a winding narrow strait running through a deep gorge, which the Dutch named the Spuyten Duyvel creek, separate northern Manhattan from the mainland with the East river washing one side and the Hudson, familiarly called the North river, flowing on the other. The expansion of population has built populous towns on the opposite shores of all these waterways, Brooklyn and Williamsburgh being across East river on Long Island, and Jersey City, Hoboken, and Weehawken across the Hudson river in the State of New Jersey. Various smaller islands are also built upon, the long and narrow formation of land in East river, known as Blackwell's Island, with Ward's and Randall's Islands to the northward, having about 300 acres of surface, whereon are the city's penal and charitable institutions. The converging rivers, with the capacious harbour and numerous adjacent arms of the sea, combine all the requisites of a great port, and could not have been better planned if the hand of man had fashioned them. The vast frontage for docks and piers can accommodate an almost limitless commerce, there being in and around New York Harbour over 50 miles of shore available for loading shipping. This has attracted the large population surrounding the harbour, it being estimated that nearly as many people as live on Manhattan Island itself are housed on the opposite shores or in near-by towns, and daily pour into the lower part of New York to take part in its business activity. The surface of the southern portions of the island is low, but to the north-

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ward it becomes rough and rocky, culminating in high spurs along the Hudson, rising at Washington Heights to 238ft. elevation, where the elegant villas have a grand outlook. There were originally marshes and ponds on the southern part of the island, while business needs caused it to be considerably widened by reclaiming shallow portions from the rivers.

The long and narrow construction of New York, with Fifth-avenue and Broadway laid out along the middle of the city, and all cross streets entering them, necessarily puts into these two highways an enormous traffic, which is especially large in Broadway below Madison-square. It is almost impossible to make any extended movement in New York without getting into Broadway. Hence that street has become the most famous in America; a show always on exhibition of the restless rush of life in the modern Babylon. Its architecture excites wonder; and its business whirl and perpetual din of traffic, its restless crowds, and jams of vehicles represent the steam-engine proclivities of the money-getting nineteenth century American. This wonderful highway is 80ft. wide between the buildings. It comes from the north into Madison-square, having started two miles off at the south-western corner of the Central-park, where the park boundaries of Fifty-ninth-street and Eighth-avenue intersect. It crosses diagonally the Seventh and Sixth avenues before crossing Fifth-avenue at Madison-square, and then it is prolonged for three miles down through the centre of the city to the Battery. Above Madison-square, Broadway passes many hotels and theatres, and also several of the very tall "French-flat" buildings that have been devised for residences in crowded New York, where the scarcity of land surface is made up by adopting the fashion of the

Tower of Babel and elevating the houses towards the sky. It also passes the new Metropolitan Opera-house, the finest theatre of New York, but a profitless investment as yet, which the modern generation of wealth and fashion built to eclipse the Academy of Music that satisfied their fathers. From the upper end of Broadway the "Boulevard," 150ft. wide, with pretty little parks in the centre, is a favourite drive to the northern suburbs.

Let us take a leisurely stroll down Broadway from Madison-square. The street is lined with huge buildings, many of them ten to 12 stories in height, and having double cellars and vaults under the pavements to give additional space. As we walk along and see one establishment after another of wide renown, the ceaseless roar of the street traffic continually dins into the ears. Here are three great business houses covering vast space, the dry-goods stores of Lord and Taylor and Arnold Constable and Co., and the carpet warehouse of W. and J. Sloane, which rise like giants on either hand. Twentieth-street to the east leads off to the handsome residences of Gramercy-park, where Samuel J. Tilden lived, and Sixteenth-street passes Stuyvesant-square, with its fine St. George's Church. Broadway then circles around Union-square, another pretty park of about four acres, oval in shape, with lawns and shrubbery and adorned with statues of Washington, Lafayette, and Lincoln. This square is surrounded by fine buildings and shops, the chief being Tiffany's noted jewelry store, where fashionable New York loves to go for pretty things. Fourteenth-street, a wide avenue, having an extensive retail shopping trade, crosses Broadway at Union-square, and the neighbourhood is a favourite locality for theatres, this square being a veritable "Rialto" for the actors. To the

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eastward of Broadway on Fourteenth-street is the "Academy of Music," a plain red-brick building of ample proportions, heretofore the opera house of fashionable New York. Just beyond is Tammany-hall, the headquarters of the Democratic "bosses" and "sachems" who largely rule New York city politics, also a brick building with stone facings, but taller and much more pretentious, surmounted by a statue of the presiding genius of the "Hall," the Indian brave, St. Tammany, who with outstretched hand beneficently looks down upon us. Tammany was a chief of the Lenni Lenapes or Delaware Indians, more used to the just ways of William Penn and his Quakers than to the schemes of political plunder and trickery of which New York now makes him the patron saint. Over opposite, and possibly as a warning, the pretty little Grace Chapel is inserted among the rows of concert halls and drinking shops with which this region abounds.

Returning to Broadway, three blocks below it bends slightly towards the right, and here Grace Church itself is located, with its rich marble façade and beautiful spire. The parsonage adjoins with a small enclosure in front upon which the towering stores encroach as if resenting even that little space reserved from the needs of trade. Below the church is the great store formerly conducted by Alexander T. Stewart, an enormous white iron building stretching east to Fourth-avenue, and occupying an entire block. Astor-place is a little beyond, and turning into it a short distance brings us to the Mercantile Library, formerly Clinton-hall, a brick building, where the notorious Macready riots occurred. This building was then the "Astor-place Opera House," and the friends of Edwin Forrest, with whom Macready had a misunderstanding, threatened that Macready should not

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be allowed to play in New York on his arrival in 1848. He appeared there, however, a number of nights in October, but when he began his farewell engagement in May, 1849, he was menaced by serious opposition. On Monday, May 7, he appeared as Macbeth, but there was so much confusion that the curtain had to be rung down before the play was ended. He was inclined to cancel the engagement, but a number of prominent people having requested him to remain, and promising to protect him, he reappeared on the following Thursday. The precautions taken to preserve order in the house enabled him to perform his part, but outside the theatre the friends of Forrest, after vainly endeavouring to secure entrance, began an attack upon the building with stones. The police being unable to restrain them the troops were called out, and after several volleys of musketry, by which some 60 were killed or wounded, the mob was dispersed. Macready declined further invitations to act in New York, and soon afterwards went home to England. The library now occupying the building is a large one and has a fine reading room; while near by in Lafayette-place is the Astor Library, a substantial brick and brown-stone building, one of the benefactions of the Astor family to New York. At the end of Astor-place is the Cooper Institute, occupying an entire block, a brown-stone building with a fine front, founded and endowed by Peter Cooper for the free education of both men and women in science and art. The "Bible House" of the American Bible Society, an immense red-brick building is opposite, also covering an entire block, and at the end of the street separating them the Third-avenue Elevated Railway, with its rushing trains, closed the view. Astor-place, Lafayette-place, and the neighbouring portion of Broadway, with Bond-

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street just below, are the homes of much of the bookselling trade of New York.

The lofty cream-coloured marble front of the Grand Central Hotel on Broadway, opposite Bond-street, is a reminder of another tragedy. It was here that James Fisk, of Erie Railway fame, was shot and killed by Edward Stokes, a Philadelphia Quaker, who, after being liberated from Sing Sing Prison, where he was sent for the crime, secured the Hoffman-house, of which he still is the landlord, at Madison-square. This locality is the region of the celebrated hotels of lower Broadway which were New York's famous caravanserais before the newer houses were established further up town. On the left hand is the Metropolitan Hotel, which encloses Niblo's Theatre, a broad and high brown-stone structure. On the right hand is the St. Nicholas Hotel, of white marble. The great highway here begins to change its character. The retail shops gradually give place to the large wholesale establishments, and Broadway, with the adjacent streets, becomes the home of the dry-goods trade of the country. From Broome and Grand streets down to the City-hall Park, and stretching over a broad belt of adjacent blocks, is the "dry-goods district," dealing with all kinds of staple products of the mills and looms, clothing and similar goods. In this region are located the factors for nearly all makers in America and for many abroad, and the annual money value of the trade represented is estimated at £150,000,000. Here throbs the pulse of the dry-goods trade of the United States, strengthening and weakening, as good or poor crops give the agricultural community a surplus to spend for dress. Through the heart of this region, crossing the city, runs the broad Canal-street, formerly a water-course from one of the largest ponds and marshes on the island, across Broad-

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way to the North river, but now a wide avenue conducting a busy and valuable trade. It carries a crowded traffic across town, and the intersection with Broadway is usually a lively place. Turning off below on Leonard-street, a short distance eastward, at a few hundred feet from Broadway, is the Tombs Prison, which stands upon the site of the pond Canal-street formerly drained. It is a sombre gray building in the gloomy Egyptian style. All the captured New York murderers live within, and the cells of the condemned, called "Murderers' Row," are always full.

Proceeding southward, the business aspect of Broadway again begins to change. The dry-goods district gradually gives place to other interests, and we enter a vast labyrinth of corporate institutions and great buildings towering high above us, containing multitudes of separate apartments, whose occupants conduct all kinds of business. The lifts—or, as they are called here, "elevators"—constantly run, and some of the larger buildings have several of them, so that it is immaterial to tenant or visitor how far skyward he may have to go. This is the region of banks, trusts, insurance companies, newspapers, railway offices, politicians, lawyers, brokers, and exchanges, with lunch rooms and restaurants liberally distributed to feed the multitude who rush into lower Broadway every morning and away again at night. In this locality of intricate business and financial ramifications is also found the speculative centre and the headquarters of most of the great corporations of the country. Crowds of people move hurriedly along the side-walks, almost all intent on business and bent on the chief New York object, amassing wealth. An outpost of this region at Leonard-street is the massive building of the New York Life Insurance Company, of pure white marble in

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Ionic style, with other spacious structures near it. Below is passed, between Reade and Chambers streets (filling the block), the large white building where Alexander T. Stewart made the most of his fortune, which has since been converted into a vast caravanserai for all sorts of tenants conducting every possible kind of business. At Chambers-street is the City-hall Park, and on Broadway, just opposite its northern end, stands a modest brown-stone building, which is the location of the most famous bank in New York, whose phenomenal success is known in every financial community. This is the "Chemical National Bank," an institution with but £60,000 capital, which is so thoroughly trusted that it holds the greatest amount of deposits of any bank in New York, and its £20 shares command £450 when they are sold, which is seldom. This bank has amassed a surplus that is more than 15 times its capital, and in its reserves it often holds £2,000,000 gold, and is generally the strongest bank in New York in its surplus reserves over the legal limit. The trust the New Yorker reposes in this favourite institution is limitless, its deposits reaching £5,000,000.

The City-hall Park is the seat of the New York city government, and may be regarded as the political and business centre of the city. It is a triangular space, originally a sort of garden around the City-hall, but now well-occupied by large buildings, for the new Court-house has been built north of the City-hall, and the Post-office south of it. Park-row, coming from the north-east, debouches into Broadway and makes the park a triangle with Chambers-street bounding it on the north. The new Court-house which faces Chambers-street is a massive Corinthian structure of white marble, and was a dozen years in building, being notorious as

the building used by the "Tweed Ring" which ruled New York 20 years ago, for extracting £3,000,000 from the Treasury on fraudulent bills, or more than five times what the work actually cost. This Court-house and the Stewart building on the opposite side of Chambers-street stand on the site of the old fort, which in the days of the American Revolution was the British outpost, commanding the entrance to the city by the northern road, now Broadway. The Court-house is substantially built and has a large central rotunda around which are the courts, while accommodation is also provided for the chief political officials of the county, such as the Sheriff, County Clerk, Surrogate, Registrar, &c. These posts are the rich "plums" in the local government, and hence the rotunda stairways and corridors are usually crowded with the small-fry politicians and dependents of the political chieftains who hold these fat offices, the predominant brogue showing the Hibernian origin of the majority of these small New York statesmen. The Court-house entrance on the northern front is imposing—a flight of broad steps, flanked by massive marble columns. The City-hall is a much older and less pretentious building constructed of white marble in the Italian style, with brown-stone in the rear. This is the office of the Mayor, and the meeting place of that odorous body, the New York Board of Aldermen. It also has a central rotunda, and the usual copious supply of small politicians, and it contains the Governor's room, which is adorned with portraits of the Governors of New York and revolutionary heroes, with also a fine portrait of Columbus. It is here they treasure Washington's desk and chair which he used when first President of the United States, but it must be sorrowfully recorded that some of the present

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occupants of the City-hall do not imitate that illustrious man's example to any eminent degree.

On the eastern border of the City-hall Park is the entrance to the approach of the great Brooklyn-bridge, with an elevated railway coming down Chatham-street across it, and a complex system of tramcar tracks in front. This Chatham-street is the locality of Jew tradesmen, old-clothes dealers, and low concert-halls, and it is prolonged north-east into the Bowery, a wide and crowded thoroughfare that presents a striking contrast to Broadway, being the avenue of the humbler classes and lined with cheap shops, beer saloons, and the like. The Bowery also shows in a remarkable degree the extent to which New York permits railways to be brought through the streets. It has four double sets of rails occupying the entire width of the roadway below, while it is roofed over with another set of elevated tracks above. Horse cars, goods cars, steam cars, and elevated cars have unlimited privileges, and there is not room left for much else. Crowds of busy people move along the pavements and in and out of the shops, and here is found New York's ancient and famous temple of the exuberant drama, the "Old Bowery," now the Thalia Theatre. To the southward of the Brooklyn-bridge entrance is the locality of the great New York newspapers—Printing-house-square—which adjoins the City-hall-park, and has on one side the tall and narrow *Tribune* building, with its surmounting clock tower elevated 285ft., and on another side the more modest yet capacious home of the *New York Times*. A bronze statue of Franklin, who is the patron saint of American newspaperdom, adorns the square, while from it Park-row runs diagonally off to Broadway with a galaxy of other newspapers located upon it, including the *Sun*, *News*, *World*, and in the

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distance, at the Broadway corner, the *New York Herald*. These journals are close neighbours, yet they are always quarrelling about something. Many of the tramcar lines come in along Park-row for their terminals at Broadway, this being the point of departure for much of the up-town traffic. At the lower end of the park is the magnificent Post-office building, which cost £1,400,000, a granite structure in Doric and Renaissance, whose broad surmounting dome and tower make it a landmark for miles around. Standing in front of this Post-office, and looking down Broadway, the stranger gets an idea of the rush and restlessness of New York. Two great streams of traffic pour together through the highway below the junction of Park-row with Broadway, and the policemen endeavour almost in vain to regulate the crowds of people, wagons, and tramcars that get jammed together in horrible confusion. The white marble *New York Herald* building on the left, and the sombre church of St. Paul with its tapering spire on the right, look down upon probably the worst street crossing in the world.

The famous hotel of a past generation, the Astor-house, rich in historic associations, stands on the opposite side of Broadway from the Post-office, occupying a broad space with its severely simple front façade. The white marble Park Bank adjoins the *Herald* office, and at the next corner is the *New York Evening Post*, long edited by William Cullen Bryant. This corner is the Fulton-street intersection with Broadway, where another jam and turmoil from conflicting streams of traffic show that here again exists from morning till night the full tide of human life as developed in New York. Fulton-street stretches across the city from river to river, and at its ends are great markets and ferries. Below this on the

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right hand the imposing ten-story edifice of the Western Union Telegraph Company elevates its surmounting tower 230 feet above the pavement. Structures of enormous size now line Broadway, having myriads of occupants, and lifts constantly on the move. The cross streets are narrow and in some cases crooked and irregularly laid out, but each pours its traffic into the main stream which has now become a surging mass of humanity, for everything and everybody have to get into this portion of Lower Broadway. The vast granite building of the Equitable Life Insurance Company, probably the largest of all these aggregations of offices, is at Cedar-street, while in Nassau-street the Mutual Life Insurance Company has built another enormous house which towers far towards the sky. These great office-letting structures are seen everywhere, and finally Wall-street is reached, and turning into it the money centre of New York is passed in review. Wall-street is of varying width and winds down to the East river, the same as the original city wall whose place it takes. Here are banks and brokers innumerable, its centre of attraction being the corner of Broad and Wall streets, where the Drexel building stands on one side, the United States Treasury on the other, with the Assay Office alongside, the Stock Exchange a few feet down Broad-street, and the gigantic Mills building opposite. The Treasury is a white marble building, which replaced the old "Federal-hall." A flight of broad steps approaches the front from Wall-street, and here is a statue of Washington on the spot where he was inaugurated as first President of the United States. Looking down Broad-street from these spacious steps, the great square tower of the Produce Exchange can be seen at the foot of Broadway, and on these steps have been frequently convened pub-

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lic meetings of weighty influence when grave subjects have stirred the financial centre. Further down Wall-street is the Custom-house, with its long granite colonnade, where the Government collects the larger part of its revenues and maintains an army of placemen, who form the most powerful political "machine" in the country.

Trinity Church, the Westminster Abbey of New York, stands in Broadway at the head of Wall-street, and its chimes morning and evening summon the restless brokers to attend Divine service, yet few pay heed. Its old graveyard stretches along Broadway, and in the street behind the elevated railway trains rush by every few minutes. It was in 1696 that the first Trinity Church was built on this spot, being afterwards burnt, while a second church was built and taken down to be replaced 50 years ago by the present fine brownstone structure, whose spire rises to the height of 284 feet. Inside, in the chancel, is the great Astor reredos, of marble, glass, and precious stones, a memorial of the late William B. Astor. Trinity is a wealthy parish, with a large income from the buildings on the church lands round about, which have advanced enormously in value. Let us climb its steeple and see the view over Lower Broadway and the harbour. The Battery-park, with its dense foliage, is a half-mile away, and beyond, on the water, are countless vessels, many moving but more at anchor. In the foreground is Governor's Island, with its forts, and on Bedloe's Island the statue of Liberty, while away off over the harbour are the hills of Staten Island and the route through the Narrows to the sea. The roar of Broadway, with its mass of moving traffic, comes up to our ears, and turning northward the great street can be seen stretching far away, with its rows of stately buildings hemming in the bustling throng.

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Now, descend to the churchyard, which still remains a mass of worn and battered grave-stones, resting quietly in the busiest part of New York. This tree-embowered spot has been a burial-place for nearly 200 years, and contains near the northern end the "Martyrs' Monument," erected over the bones of the patriots who died in the prison ships during the American Revolution. The oldest grave dates from 1681; the most noted grave is Charlotte Temple's, under a flat stone, which has a cavity out of which the inscription plate has been twice stolen. Her romantic career and miserable end, resulting in a duel, have been woven into a novel. William Bradford's grave is not far away—one of Penn's companions in founding Philadelphia, and for 50 years anterior to the Revolution the American Government printer. A brownstone mausoleum covers the remains of Captain James Lawrence, of the frigate Chesapeake, killed in action when his ship was captured by the British frigate Shannon in 1813. Here lie Alexander Hamilton and Robert Fulton, with other famous Americans, almost the latest grave being that of General Philip Kearney, killed during the late Civil War.

Below Trinity Church the Broadway traffic is less in volume and the street soon comes to the Bowling-green, where it divides into two smaller highways—Whitehall on the one side and State-street on the other. This is a triangular space of about half an acre, having a small oval park and fountain in the centre, around which the Broadway tramcars go for their terminus. This place in the ancient days was the Court end of the town, surrounded by the residences of the proudest of the Knickerbockers. Here, in revolutionary times, lived Cornwallis, Howe, Clinton, and other British generals. Benedict Arnold lived at No. 5.

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Broadway, and Washington's headquarters was No. 1, now occupied by the great Washington-building, which rises 251ft. to the top of its tower, on the west side of the green, while to the eastward is the broad stretch of the Produce Exchange, part of the land it stands upon having been the site of the house where Robert Fulton lived and died. Talleyrand also lived on Bowling-green at one time, and the space to the southward, now a row of six buildings, was the site of the old Dutch fort that in the early days guarded "New Amsterdam." This region is the favourite locality of the steamship offices and the foreign Consuls. Beyond it the island ends in the Battery-park. The British Consul-General looks out upon the foliage of this attractive park from snug quarters on State-street, in one of the large buildings let out for offices, the landlord having due regard for the safety of Her Majesty's representative by providing elaborate fire escapes outside his windows. The elevated railways come down into the park and occupy much room, terminating at the point of the island, at the South Ferry. The park is well kept and the outlook over the harbour is fine, but the upper classes, who in remote days took their airing here, now avoid the pleasant place. To the right of the park is the emigrant landing station, where sometimes twenty-five thousand new arrivals are brought in a single week, and its occupants overflow throughout all the neighbourhood. Into the spacious rotunda of old Castle Clinton all the emigrants are brought and cared for until they leave New York, that the harpies abounding in the metropolis may have no chance to prey upon them. Tugs land them from the arriving steamers and take them away again to the railway stations, so that they need not go out into the city

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at all. It is a wonderful sight to see that rotunda filled with men, women, and children from all nations, who bring their old country fashions and language with them, and reproduce a Babel of tongues as they change their money, buy their railway tickets, and ask information. It is a pleasant spot, this pretty foliage-covered park, which is their first landing-place in the New World, and is a fitting end for America's greatest street—Broadway.

III.—FIFTH-AVENUE AND ITS CHARACTERISTICS.

NEW YORK.

The New Yorker's chief object in working so hard to amass wealth is said to be to get a brown-stone mansion upon Fifth-avenue. The vast business development shown upon Broadway and the adjacent streets naturally produces the magnificence displayed upon this grand avenue, 100ft. in width, extending northward almost in the centre of Manhattan Island. The square from which it starts was originally a humble locality—the "Potter's Field"—for many years the city cemetery, where the unknown, the friendless, and the outcast were buried, and 100,000 bodies were interred. The steady expansion of the city had reached beyond this burial-place when it was determined to convert it into a park. Thus originated Washington-square, an open space with trees and lawns, covering about nine acres, and located on Fourth-street, a short distance west of Broadway, from which the famous Fifth-avenue

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is laid out northward six miles in a straight line until it reaches the Harlem river. For the first three miles this noble highway is bordered by the homes of the leading people of the great city; then for over two miles further it makes the eastern boundary of Central-park, while beyond are a succession of attractive villas. It presents striking examples of the best residential and church architecture in New York, and the progress of the street northward into the newer portions shows how styles change with the lapse of time. The older houses at the lower end are generally of brick, which gradually develops into brownstone facings and borders, and then into uniform rows of most elaborate brownstone structures with imposing porticoes reached by broad flights of steps. As Central-park is approached the more modern houses are of all designs and varieties of materials, thus breaking the monotony of the rich yet sombre brown. In the neighbourhood of Fourteenth-street, and also at Madison-square, the overflow of business from Broadway has invaded Fifth-avenue with shops, many of them of large size. But the two miles from Madison-square to Central-park present a street of compact buildings and architectural magnificence, which in its special way has no equal in the world.

Washington-square is surrounded by fine residences, and upon its eastern side is the white marble Gothic structure of the University of the City of New York, one of the chief educational institutions. Adjoining is a granite church of the Wesleyan Methodists, while many other attractive churches are upon the avenue. The busy shopping region adjacent to Fourteenth-street spreads some distance, and at Fifteenth-street is a noted corner. Here is the broad brownstone

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Manhattan Club, the home of the aristocratic politicians of the Democratic party—or, as they are called, the "swallow tails," to distinguish them from the plebeian "short hairs" who congregate at Tammany-hall. Behind the Club are the buildings and church of the College of St. Francis Xavier, the headquarters of the Jesuits in North America, and near by is the spacious New York Hospital. On Fifteenth-street, east of Fifth-avenue, is the Century Club, the most noted literary and artistic club of New York. Proceeding three blocks northward, at Eighteenth-street is Chickering-hall, the great lecture hall of the city; and opposite to it is the spacious dwelling of August Belmont, the banker and American representative of the Rothschilds, whose son, Perry Belmont, is Chairman of the Foreign Affairs Committee of Congress. Ivy overruns the mansion, and behind it is a large picture gallery. The wealthy and exclusive Union Club is at Twenty-first-street, with the more modest house of the Lotus Club on the opposite corner. Approaching Madison-square at Twenty-third-street shops again invade the avenue, while fine hotels border the square, and upon leaving it at Twenty-sixth-street the avenue passes between Delmonico's famous restaurant and the Brunswick *café* and hotel. Delmonico's great brick building stretches from Fifth-avenue to Broadway, and in its gorgeous hall are given New York's most elaborate and costly dinners. The Brunswick is little less renowned, and its fine brownstone front has opposite the great Victoria Hotel at Twenty-seventh-street, also extending west to Broadway. Far to the northward the great street now stretches up Murray-hill, with its rows of stately buildings, interspersed with shops, art galleries, and decorative establishments: its myriads of

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carriages, and crowds of people on the sidewalks. Parallel to Fifth-avenue and a short distance east of it is Madison-avenue, also a street of fashionable residences, and second only to the greater highway in its displays of wealth and elegance. On Twenty-eighth-street, some distance east of Madison-avenue, is St. Stephen's Roman Catholic Church, which has attracted so much attention on account of the disciplining of its pastor, Father M'Glynn, who became entangled in the vagaries of Henry George. It is a large brownstone building with a rather unprepossessing front, but inside is quite attractive, there being a magnificent altar-piece, said to be the finest in New York, and a grand painting of the Crucifixion behind it, upon which an exquisite light is thrown down from above. This, like all American churches, has the floor covered with pews. Beyond it, down near the East river, is the largest hospital in New York, the Bellevue. Returning to Fifth-avenue, at the next corner, is a plain and substantial granite church of the "Dutch Reformed" congregation, while at some distance west of it the giant Gilsey-house towers off on Broadway. To the eastward, also, on Twenty-ninth-street, is a little church, a few yards from Broadway, that has attained a wide reputation. It is a picturesque aggregation of low brick buildings, set back in a small enclosure, looking like some mediæval structure. It was to this edifice that a lordly prelate, when asked to say the last prayers over the dead body of an actor, sent his sorrowing friends, saying he could not thus pray for the ungodly, but that they might be willing to do it at the little church round the corner. This picturesque Episcopal Church of the Transfiguration performed the last sad rites in the presence of an overflowing congregation, and has

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ever since been popularly known as "the little church round the corner."

Mounting gradually up the gentle ascent of Murray-hill we get to what was a few years ago the centre of the aristocratic neighbourhood at Thirty-fourth-street, a broad avenue running across the city, on the opposite corners of which are represented the two greatest fortunes produced in America before the advent of the Vanderbilts. On the west side of Fifth-avenue, occupying the block between Thirty-third and Thirty-fourth streets, are two spacious brick houses with brownstone facings and a large yard between enclosed by a red brick wall. These are the homes of the Astors, John Jacob and William, the grandsons of John Jacob Astor, who amassed the greatest fortune known in America anterior to the Civil War. Near by, in Thirty-third-street, lives a great grandson, William Waldorf Astor, who was recently the American Minister at Rome. The Astor estate is typical of the unexampled early growth of New York and of the accumulation of wealth by the advance in the value of land as the city expanded. The original Astor was a poor German peasant boy, from the village of Waldorf, near Heidelberg, who migrated to London and prior to 1783 worked for his brother there at making musical instruments. In that year, at the age of 20, he sailed to America with about £100 worth of musical instruments. On the ship he met a furrier, who suggested that he should trade his instruments for American furs. He did this in New York, hastened back to London, and sold the furs at a large profit. Returning to New York he established a fur trade, making regular shipments to England and the East, and finally building ships to carry on the business of a merchant. He prospered so much that at the opening of the present century he had amassed £50,000. He then

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began buying land and buildings in New York, built many houses, and was so shrewd in his investments that they often increased in value a hundredfold. He was charitable and liberal, but of a retiring disposition in later life, and at his death in 1848 his estate, then the largest in the country, was valued at £5,000,000. His chief public benefaction was the gift to the city of New York of the "Astor Library," of which I have already spoken in describing the neighbourhood of Broadway. He bequeathed £80,000 to found this library, and his son, William B. Astor, supplemented it with liberal donations of land and money, so that besides the buildings the institution now has an endowment fund of £360,000 and about 230,000 volumes. It is maintained almost entirely as a library of reference. The great Astor estates as represented now by the third and fourth generations are estimated as aggregating £30,000,000.

On the north-west corner of Fifth-avenue and Thirty-fourth-street is the magnificent white marble palace built by Alexander T. Stewart when at the height of his fame as the leading New York merchant. It was intended to eclipse anything then known on the American continent, and upon the building and its decoration £600,000 were expended. This noted house outshone all other New York dwellings until the Vanderbilt palaces were constructed further out the avenue. The Stewart fortune was an evidence of the enormous possibilities of New York as a place for successful trading, though much of the wealth he amassed was afterwards invested in large buildings in profitable business localities, notably the great hotels on Broadway in the "dry goods district." Stewart, like Astor, began with almost nothing, though at a somewhat later period. He was a

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Belfast Irishman, born in 1802, who studied at Trinity College, Dublin, and without taking a degree migrated to New York as a teacher in 1818. But teaching was not to be his destiny, and he ultimately got into the "dry goods trade" in a small way, near the City-hall-park, his business steadily expanding until he acquired all the adjacent buildings and erected the great store on Broadway with which his name was so long associated, and afterwards established a retail branch further up town. His business was enlarged in all directions until it became the greatest in America, with branches in the chief cities, Stewart owning the best American factories making the fabrics dealt in, besides being a large importer. His business methods involved the remorseless crushing of rivals, so that he made more enemies than friends, and in his later years had only one trusted adviser, Judge Henry Hilton, whose modest brownstone house adjoined his own on Thirty-fourth-street. Yet Stewart had a charitable side. He sent a shipload of provisions to Ireland in the famine of 1846, and made large public gifts to aid suffering, while at his death he was building on Fourth-avenue at Thirty-second-street an enormous structure designed as a "Home for Working Girls," on which £300,000 were expended. When completed after his death it was opened, but under such stringent rules about cats, parrots, and "company" that there was soon a rebellion among the intended beneficiaries, and it had to be closed. There was a shrewd suspicion that the difficulty was intentional, for the place, which as a charitable foundation would have produced no revenue, was soon afterwards reopened as an hotel. Stewart had barely moved into his Fifth-avenue palace when he died, and his body was

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temporarily placed in a vault awaiting removal to the mausoleum being constructed at Garden City, Long Island, where he was building a town on an extensive estate he owned. Then the country was horrified with the news that the corpse had been stolen; not for prospective ransom, but to revenge business tyranny, and so far as known it was never recovered. His childless widow lived in gloomy grandeur until her recent death in the palace, without visitors, and with watchmen pacing the sidewalk day and night. Stewart's great business has been broken up and scattered since his death, and as he left no descendants the fortune went to collateral heirs, who are now quarrelling about it.

Thirty-fourth-street is a great highway. Some distance west of Fifth-avenue it has the extensive Institution for the Blind, its white marble buildings surmounted by turrets and battlements, while the spacious greystone State Arsenal, the military headquarters of the State troops, is on Thirty-fifth-street near by. To the eastward, after crossing Madison-avenue, Thirty-fourth-street crosses Fourth-avenue, which is here widened to 140ft. to permit the railways and tramways to go through a tunnel under the elevated ground that corresponds to Murray-hill. This tunnel extends northward to Forty-second-street, and the open spaces above, giving it light and air, are surrounded by a series of little parks, making this, which is called Park-avenue, one of the pleasantest places in New York. Standing alongside this park, eastward at Thirty-second-street, is seen the enormous pile of buildings that make Stewart's Working Women's Home, constructed around a spacious courtyard. At Thirty-fourth-street corner is the Unitarian Church of the Messiah, a reddish-brown Gothic structure, of which the noted preacher, Robert

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Collyer, is pastor. At Thirty-fifth street is another church, much similar in appearance, built in Lombardo-Gothic style of gray stone, but not so elaborate, the Presbyterian Church of the Covenant. Off to the northward, over the little parks, the view is closed by the Louvre domes of the Grand Central Railway Station of the Vanderbilt roads rising in the distance. Returning to Fifth-avenue at Thirty-seventh-street is found the Old Brick Church of the Presbyterians, solid and substantial, with a tall brick and brownstone spire. The congregation of this church dates from 1767. This stands at about the most elevated portion of Murray-hill, and a short distance beyond, at Thirty-ninth-street, is the finest club-house in New York, where the magnates of the Republican party are wont to concoct plans for political management that reach even to the election of Presidents—the Union League Club. This is an elaborate brick and brownstone edifice, with a beautiful colonnade over the entrance, and its spacious windows disclose the comfortable apartments within. Just above, on the east side of the avenue, is a broad dwelling of brownstone, evidently built some time ago, and having a carriage entrance at the side into a small courtyard. This is No. 459, another historic house, for it was the original home of the Vanderbilts, and is now the residence of one of Commodore Vanderbilt's younger grandsons, Frederick. The Vanderbilt fortune, the greatest ever amassed in America, represents modern New York's financially expansive facilities, as manipulated by the machinery of corporations and the Stock Exchange, and is the accumulation of two generations, a father and son, within the present century. Cornelius Vanderbilt, the original Commodore, was a poor and uneducated boatman, born on Staten Island in

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1794, who carried on trade in a small way around New York harbour, and at the age of 23 is said to have owned several small vessels and estimated his wealth at £1,800. At that time he became a steamboat captain and went into the transportation business between New York and Philadelphia, afterwards extending his operations in other directions. In 1848 he operated most of the profitable steamboat lines leading from New York, and soon afterwards invested in ocean steamers in connexion with the transit of the Isthmus of Panama. He expanded these ocean routes, and at the busiest part of his steamship career owned 66 vessels, the finest of which, the steamer Vanderbilt, costing him £160,000, he presented to the Government for a war-ship during the rebellion. In 1864, finding that from economic and other causes steamship owning in the United States was likely to be unprofitable, he determined to abandon it and devote his attention to railway management, he having already made large investments in railway shares. At that time he estimated his fortune at £8,000,000. He acquired control of various railways leading east, north, and west from New York, the shares, which he bought at low figures, largely advancing in value and the roads improving in earning powers under his excellent management. The greatest of them, which, with its western extension, makes a continuous route from New York to Chicago, is the New York Central Railway. When he died his estate was estimated at £15,000,000, and nearly all of it was left to his son, William H. Vanderbilt, as the old Commodore felt the importance of concentrating wealth when held in American railway investments in order to get the full advantage of its power. By sheer force of its own earning capacity, aided by Stock Exchange operations, the son saw this colossal for-

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tune still further grow, and when he suddenly died two years since it had reached an aggregate estimated from £40,000,000 to £50,000,000, the bulk of it being bequeathed to his two elder sons, while he left other sons and daughters who were also liberally provided for. At one time William H. Vanderbilt had £10,000,000 in United States Fours, and it is no wonder that the unpretentious dwelling at Fortieth-street became too cramped for the increasing wealth of the modern Crœsus, and that he had to build a row of palaces to house his family further out Fifth-avenue.

Diagonally across from the Vanderbilt dwelling, and on the west side of the avenue, is the Croton Reservoir, the old distributing reservoir for the city's water supply, which covers four acres on the summit of the hill, and has a pretty little park, the Bryant, behind it. This ivy-covered structure looks not unlike the Tombs Prison, the enclosing walls being constructed in the massive and sombre Egyptian style that seems to have had such attractiveness for some of the earlier New York architects. North of the reservoir, Forty-second-street is laid out across the city, a wide highway leading off to the Grand Central Railway Station, where all of the Vanderbilt lines come into New York. This is the largest railway station in America, covers over five acres, and had £450,000 expended upon its construction. It is an impressive building of brick with stone and iron facings and ornamentation, surmounted by Louvre domes, with a vast interior hall for the trains under a semi-circular roof supported by arched trusses. Elevated railways and tramcar lines from "down town" run into this great station, the latter coming through the Park-avenue tunnel; and the adjacent region is a lively place, abounding with hotels and lodging-houses, restaurants, and the

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various adjuncts of a railway terminal, including a prosperous bank which thrives upon the Vanderbilt patronage. This is the Lincoln National Bank, which has for its manager a recent Cabinet Minister, showing how New York absorbs talent of all kinds. The outgoing railways run north from this station through tunnels for a long distance, until they reach the suburbs, and crossing the Harlem river depart north and east. This is the only railway system for passengers leading directly from New York city. All the other lines have their stations across the North or East rivers and have to be reached by crossing ferries.

The Jewish race have built upon Fifth-avenue, at Forty-third-street, their finest American synagogue, the Temple Emanuel, a magnificent specimen of Saracenic architecture, with the interior gorgeously decorated in Oriental style. Creeping plants are overrunning the lower portions of the two great towers. Beyond it, at Forty-fifth-street, a few small red-brick houses of the olden time remain, which have not yet been torn down to make room for the imposing brownstones. Overshadowing them is the Universalist Church of the Divine Paternity, one of the finest in the city. Just above is the Episcopal Church of the Heavenly Rest, a strange-looking, narrow-fronted, reddish-stone structure, squeezed between the adjoining houses, but expanding to large proportions inside the block, and looking more like a museum than a church. It is surmounted by statues of brown angels vigorously blowing trumpets towards the various points of the compass. In the next block, and occupying the whole of it, is the finest modern hostelry of Upper Fifth-avenue—the Windsor Hotel, tall and solid looking, with an imposing front and comfortable appearance. Pretty window gardens adorn the windows

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alongside the entrance, and the lobbies within are spacious, being filled in the evenings, especially in times of excitement, with the chief men of the city, this being the great resort for news and gossip and stock speculation at night. Across Forty-seventh-street from the Windsor Hotel is a square and roomy though not a large house, with a mansard roof, an abundance of foliage plants in the rear windows, and an elaborate front portico, under which a solid stairway flanked by evergreens and garden vases leads up to the hall door. Within this residence, at No. 579, Fifth-avenue, lives the most mysterious and probably the best-abused person in the States—a modest and retiring man, who, though usually in seclusion, yet manages to keep up communication with the outer world by means of an abundance of telegraph and telephone wires entering his house. Upon these radiating wires the bulls and bears of Wall-street blame most of their woes, for Jay Gould is supposed to sit within and manipulate them. He is the greatest power in the New York of to-day, and has had a remarkable career, being alike the product and the producer of modern Wall-street methods. He was a poor orphan boy who was clerk in a country store, and afterwards a surveyor and mapmaker. Subsequently he got an interest in a tannery in Pennsylvania, and to sell its leather was the object of his earliest visits to New York. Then he owned the whole tannery; but his visits to the metropolis had taught him there were better methods of making money, so he sold out and removed thither, being too much afraid of New York at first, however, to live in the city, so he made his home over in New Jersey. It was not long before New York got afraid of him. His subsequent career is well known. No stock speculator anywhere has had such a career or made

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such ventures. He was for years the "great bear," pulling down, wrecking, ruining, controlling newspapers, courts, legislatures, and being even accused of bribing a President of the American Republic. Yet he has his good traits, is charitable, domestic in his habits, and to the very few whom he trusts is a firm friend. His fortune is the largest at present in the hands of any one man in New York, being mainly invested in railways, but it is impossible to estimate its amount, for Jay Gould is a Sphinx who tells nothing. Unostentatious and modest to an extreme, this wonderful speculator moves quietly in his work, and makes display in but one thing—his grave. He has expended £25,000 in building a miniature of the Pantheon for his mausoleum in one of the cemeteries, and, true to his retiring nature, declines to have his name sculptured upon it.

When the old Dutch Governor of New York, Peter Minuit, had bought the whole of Manhattan Island from the Indians for goods worth less than £5, he looked after the spiritual welfare of his little colony by founding, in 1628, an orthodox Dutch church. This same church, after several removals, now exists in a costly brown stone building at Fifth-avenue and Forty-eighth-street. The inscription tells us that this magnificent edifice is the "Collegiate Reformed Protestant Dutch Church of the City of New York, organized under Peter Minuit, Director-General of the New Netherland, in 1628, chartered by William," King of England, 1696," the present church having been erected in 1872. Upon the next block above, occupying the entire space between Fiftieth and Fifty-first streets, is the great Roman Catholic cathedral, appropriately named St. Patrick after the patron saint of a large part of the population. It is of white marble in the Decorated Gothic

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style, and covers 332ft. by 174ft., the central gable of the front rising 156ft., while the unfinished spires flanking it, upon which work slowly progresses, are expected to reach a height of 328ft. Going inside this great church, one can admire its high nave, rich decoration, magnificent altars, and beautiful windows. The softened light unfolds the cloistered arches of the roof, and the interior presents a striking resemblance to the great Cathedral at Cologne. In the rear, fronting upon Madison-avenue, is the Archbishop's residence, also of white marble, and on the next block northward, in an enclosure fronting Fifth-avenue, is the Roman Catholic Orphan Asylum, an extensive brick structure with a large portion of the front made of continuous series of glass windows. Upon Madison-avenue, opposite the Archbishop's residence, are the extensive buildings of Columbia College, surrounding a courtyard. This is the old King's College of New York, founded in 1754 by a fund which was started from the proceeds of several lotteries, raising £3,443. It is now a wealthy establishment with other buildings and departments in various parts of the city, and is famous both as a school of law and medicine as well as in the academic departments.

We have now reached the finest portion of the newer Fifth-avenue—the Vanderbilt palaces. On the west side at Fifty-first and Fifty-second streets are two elaborate brownstone dwellings with ornamental fronts and having a connecting covered passage, which contains the doorways of both. These are the homes of William H. Vanderbilt's daughters, and are only exceeded in magnificence by his own house, a castellated drab-stone structure, at the upper corner of Fifty-second-street. This is also highly decorated, and

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is now the home of his eldest son, William K. Vanderbilt, the present president of the New York Central Railway. His second son, Cornelius Vanderbilt, lives in the fourth palace at the corner of Fifty-seventh-street, a brick building with ornamental stone decorations. These palaces were built, decorated, and furnished to outshine any other dwellings in New York, and it is said that £3,000,000 were expended upon them. But the great Crœsus who designed them, like so many men who have built grand houses, had barely moved in before he died. It was in the reception parlour of his new home that Mr. William H. Vanderbilt, about two years ago, while talking to Mr. Robert Garrett, suddenly fell over from his seat, almost into the latter's arms and instantly expired. The death was unexpected, and that night the New York speculators had hard work laying their lines to prevent a panic in the next day's stock market. Mr. Garrett had visited Mr. Vanderbilt merely for a social call, the disputes that previously had arrayed the two families in hostility on account of rival railway interests having been reconciled. Opposite this grand mansion, the finest in New York, is the tall structure of the elegant Langham Hotel, while at the corner above are the beautiful rose windows of St. Thomas's Episcopal Church. All the dwellings in this region are costly, and show that fortunes have been expended in their decoration. St. Luke's Hospital, at Fifty-fourth-street, is a notable structure managed by the Episcopal Church. Dr. John Hall's Presbyterian Church is at Fifty-fifth street—an elaborate brownstone building, and the largest and wealthiest Presbyterian church in the world. Its pastor is said to preach to £50,000,000 every Sunday. All the cross streets display long rows of brownstone dwellings, and as Central-park

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is approached, the enormous apartment houses facing it rise high above us in various directions. The foliage of the park which is at Fifty-ninth-street obliterates the view beyond, but the great avenue extends far away northward as the park boundary with many fine buildings fronting it. Notable among these structures is the Lenox Library and the Metropolitan Museum of Art. This desultory description will give some idea of New York's great street of wealth and fashion—the world-famed Fifth-avenue.

IV.—THE NEW YORK CENTRAL-PARK AND BEYOND.

NEW YORK.

One is not long in New York without taking a ride on an Elevated railway. These light and airy constructions, set upon stilts, have solved the problem of rapid transit for the elongated, narrow city. In fact, methods of quick transportation of all kinds have had much study in the American metropolis. The character of the city and its surroundings, and the migratory habits of the vast crowds rushing in from all quarters in the morning and rushing out again at night, have forced this. Over a million people cross the North and East Rivers every day; and half a million or more rush "down-town" every morning, and back "up-town" at night. No city anywhere has so many ferries or such enormous capacity in the huge ferry-boats that cross the rivers, or such gigantic floating palaces as carry the passenger traffic from its piers to distant places. A hundred

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thousand people daily cross the Brooklyn-bridge which stands high above the East River. A second bridge is projected to cross at Blackwell's Island, so that "up-town" may have a chance for easy transportation to Williamsburg, and the railways on Long Island may secure a terminal in New York City. The Hudson River is being tunnelled to secure similar advantages. Almost all the principal streets have tramways, and some, like the Bowery, have two or three sets of iron roadways upon them. Four lines of Elevated railways carry rapid and frequent passenger trains overhead; and their capacity is so overtaxed that a project is on foot for tunnelling Broadway, which already has a most lucrative tramway upon its surface. As the city could only grow at its northern end, the great distances forced new solutions of the problem of rapid transit. Hundreds of omnibuses formerly crowded Broadway, but their din has ceased as their system was outgrown. The tramcars moving through the narrow and crowded streets were often obstructed and always too slow. Then the relief was sought cheaply overhead, that London got at great cost underground. But the new plan was difficult of introduction. When someone first thought of setting a railway up on posts, and it was built along Greenwich-street and the west side of the city, it had but a sickly existence for several years, and most people feared to ride lest the airy structure should fall down. But it afterwards grew in favour, and when it paid, there was soon a rush of capital for investment in more Elevated railways. They were speedily built, and stretched their lines to the extreme northern boundary, and they have for the present solved the problem of rapid transit in New York. Then all were gathered together into

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a single gigantic corporation, known as the "Manhattan Company," and, under the present control of Jay Gould, they quickly carry you for 2½d. wherever you desire to go. High up in the air, the trains rush past the upper windows of the houses, the passengers gazing in at the residents doing their work, or eating their meals, or perchance going to bed; while the street traffic proceeds in its usual slow and obstructed fashion beneath. Smoothly and swiftly gliding through and over the great city, round the corners and among the houses, now hemmed in by tall buildings in some narrow street, then quickly given a broader view on a wide avenue, there is abundant opportunity to observe the peculiarities of the metropolis. To most visitors this is as great an attraction as New York can present, and it certainly gives more real enjoyment for less money than any other entertainment in the usually costly metropolis. The convenience of the system is also a charm, as the Elevated trains make quick and easy routes wherever one wants to go, up or down town.

Let us take one of these lines and ride out to Central-park, for two of them lead to it, and two others pass not far away. Within a half-hour's time from the southern extremity of New York, the Elevated train travels the five miles from the Battery to the park, halting at a dozen stations *en route*. This great park is the pride of New York, a pleasure ground upon which has been lavished all that art and expense can accomplish. It occupies a parallelogram in about the centre of Manhattan Island, two-and-one-half miles long and a half-mile wide, and covers 843 acres. A considerable part of this space, however, is taken up with the Croton water storage reservoirs, which are elevated above the general level, and, with other grounds also occupied for various purposes,

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reduce the actual surface of the park itself to 683 acres. This was the first great park established in the States. Thirty years ago the only rural resorts of the populations of the great American cities were the cemeteries or pic-nic grounds. It was not until 1858 that the preparation of the southern part of Central-park began, and the work was pushed vigorously, as many as four thousand men being at times employed. The topography of the ground was generally the reverse of what is needed for a park, but there was no alternative. The original surface was either rock or marsh, and most rough and unattractive. It had for years been the depository of the refuse of the town, and was a veritable desert of rubbish and coal ashes, used as the temporary abiding place for colonies of "squatters," who set up their ricketty shanties wherever they thought the task of raking out the ash heaps might yield something of value. Much of the earlier work was the removal of this refuse to the depth of many feet before the natural surface was uncovered; but the prodigious amount of labour soon bore fruit, and an enormous outlay overcame the difficulties, so that the popularity of the parts of the park first opened was so great that the money for further improvements on a large scale was readily granted, and the enterprise—then a novelty in America—acquired much celebrity. As this long and narrow enclosure would interfere with the cross-town traffic, at about each half-mile a street is carried by a subway under the park walks and drives, thus giving free passage without interfering with the pleasure grounds. The engineering skill of the park management has made the most of the unsightly surface they had to deal with, and some of the greatest defects have been converted into most attractive features. Art had to do everything; for upon

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the original surface there was neither lake nor forest, lawns nor walks. This waste of rocks and *débris* had to be excavated to make the lakes, bridges were built, trees planted, and roads laid out. The great pleasure-ground now needs only the maturing of some of the trees to become one of the handsomest parks in the world. Uniting art with nature, its Italian terrace, placid waters, many bridges of quaint design, its towers, rustic houses, nooks and rambles, place it in the front rank among the parks of America.

Entering the park from Fifth-avenue, the road leads by a gently-winding course past pretty lakes and vista views, to where the Mall or promenade is reached. Here many thousands gather on pleasant afternoons to hear the music. The broad green surfaces seen to the westward, which include a spacious ball-ground, give a tranquil landscape, and, looking northward through the Mall and its avenue of bordering elms, the Observatory, a little gray-stone tower, closes the view away off over another lake. At the end of the Mall, the terrace is crossed, bordering this lake, to the edge of which the ground slopes down. On one side a fountain plashes, while on the other is the concert-ground, overlooked by a shaded gallery called the Pergola. Here congregate the nursemaids with the children, where art has done its best to make magnificence. The former are bedecked in white French caps and broad aprons, but generally have a Hibernian air that cannot be disguised. Across the pretty lake where the Observatory stands is a wooded, rocky slope called the Ramble, with numerous paths winding through it, and a massive structure on its highest point called the Belvedere. There are playgrounds for the children—an aviary and menagerie, and other amusements provided. The road winds along, past statues and beautiful

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views, and comes out in the space alongside the smaller reservoir, where not far away is Cleopatra's Needle, which the late Mr. Vanderbilt had brought to New York and set up near the great Art Museum, which will ultimately have the finest art collection in the metropolis. Then the road passes alongside the larger reservoir, just at the edge of the path, with barely enough room for it to get through between the great bank of the basin and Fifth-avenue, though both are admirably masked. The northern portion of the park has extensive meadows, with another lake, and the road gradually leads to the western side, where you ascend Harlem Heights and have a fine look-out. Far off to the north can be seen the tall arches of the "High Bridge" over the Harlem River, which brings the Croton Aqueduct into the city, and the tower at its nearest end, which is used to force the water into the highest basins. The winding banks of the river are steep and picturesquely wooded, and can be traced towards the Hudson River, across which, dim and hazy in the distance, are those curious formations on the New Jersey shore known as the Palisades. In the foreground, just beyond the edge of the park, an elevated railway runs along on its trestle, here rising higher than ever as it crosses a depression in the surface, while outside the railway is the Lion Brewery and its picnic-grounds, a favourite resort of the Germans. Within the park itself are many secluded paths and embowered walks where tired pedestrians recline on benches under the trailing vines. A flock of contented sheep browse upon the meadows, and at night are housed in a building more magnificent than many seen upon Fifth-avenue.

The northern boundary of Central-park is One Hundred and Tenth-street, about seven and a-

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half miles from the Battery. Manhattan Island beyond this has been laid out with superb drives and broad public roads known as "Boulevards," and the extensions of the elevated lines to the Harlem River are rapidly converting it into a civilized and inhabited region. Driving along one of these Boulevards, 150ft. wide, the fast trotters of the young bloods of New York speed rapidly by us, raising great clouds of dust, for these are the racing-grounds for the turfmen, there being little restriction on fast driving. The elevated road off to the westward curves around on enormously high stilts over the low ground, and a train cautiously moves on its ticklish perch, giving much the sensation produced by skating on thin ice. This is a land of the "squatter," for many shanties are snugly placed among the rocks, whose inhabitants are opposed to paying any rent. Gray, scarred, and moss-covered crags poke up their heads through all this region, though intervening nooks are found where good soil abounds, and here are little market gardens and hotbeds growing berries and vegetables. Approaching the Harlem River, across it are seen Morrisonia and other villages, the distant view being closed in by hazy hills. The Boulevard runs into the King's-bridge-road and down into the wooded slopes of the Harlem Valley and across the river by that little old historic bridge whose fame is intertwined with the early history of New York. This river flows through a deep gorge, which winds about, with the New York Central Railroad seeking an outlet by its northern shore to the Hudson River. Several bridges cross it, but the greatest is the "High Bridge," the handsome structure of tall granite piers and graceful arches, showing with singular beauty from different points of view, whether seen through

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vistas of foliage or from approaching drives, from the river or from distant hilltops. Beyond is Spuyten Duyvel Creek, the strait that connects the Harlem with the Hudson, and makes Manhattan an island. It opens out upon the great river with a magnificent view of its broad bosom, having the Jersey Palisades for a stately background.

The Croton Aqueduct is the most costly work of the kind yet undertaken in the States, and New York is justly proud of it and of the "High Bridge," which has been well described as "a structure worthy of the Roman Empire." The aqueduct is over 40 miles long from the Croton River to the Distributing Reservoir in the city, and originally cost £2,500,000, but much more has been since expended in enlargements and improvements. The Croton falls into the Hudson about 25 miles north of New York, and its head waters are dammed to make artificial lakes that gather the water supply. The works, excepting the great reservoirs in Central-park, were built between 1837 and 1842, and surpassed all modern constructions of the kind in extent and magnificence. The aqueduct in its course goes through more than a mile of tunnels bored in gneiss rock, while much of the open cutting is also rockwork. The Croton was first dammed by a wall 40ft. high, forming Croton Lake, covering 400 acres, and holding 500 millions of gallons. Then afterwards a dam 700ft. long was built across the western branch of the river, flooding 300 acres, and making a storage basin for 3,000 millions of gallons. For 33 miles from these lakes to Harlem River the aqueduct is built of stone and brick, with a cross section of about 53½ square feet and an inclination of about 1ft. to the mile, or 34ft. in the entire distance. Some 115 millions of gallons flow daily with a

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movement of about a mile and a-half per hour. Three iron pipes carry the water across the High Bridge, which is 1,460ft. long and rises 116ft. above high-water mark. The original intention was to have carried the water across Harlem River in iron pipes down one bank and up the other, but the objection was made that this would obstruct navigation. The present plan was then devised of a bridge with arches 80ft. wide and openings 100ft. high to provide for the passage of masted vessels. There are eight of those arches in the river crossing and seven other arches on the banks, each of 50ft. span. At the New York side of this picturesque bridge is the tall and solid-looking tower that is a special feature in all the views, designed to supply a more elevated reservoir for the convenience of the highest portions of Manhattan Island. Its surmounting tank is at 265ft. elevation. A portion of the water coming across the aqueduct is pumped up there, but the greater part flows on to the reservoirs in Central-park covering 135 acres, and having 1,200 millions of gallons capacity, their elevation being 119ft. Several underground pipe lines thence convey water to the Fifth-avenue distributing reservoir on Murray-hill, which is about 115ft. elevation and holds 20 millions of gallons. The Croton water is pure and clear, the large storage reservoirs in connexion with the Croton lakes giving ample opportunity for the subsidence of impurities. The entire cost of waterworks and aqueduct was about £6,000,000. The growth of New York has, however, almost got beyond the capacity of these great works, extensive as they are. New enterprises are afoot. The most enormous reservoir in the world is being constructed at the Quaker Bridge, in the Croton district, designed to hold 40,000 millions of gallons, so that storage may be had when drought threatens

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the supply. About £4,000,000 will be expended upon this work, and a new aqueduct is to bring the water to Harlem River, 12ft. in diameter, tunnelled for 27 miles through the rocks, and also carried by a tunnel under that river at a depth of about 250ft. An imposing gatehouse at One Hundred and Thirty-Fifth-street will admit the new water supply to the city mains. The new aqueduct is expected to be finished in 1888 at a cost of £3,000,000, and the new Quaker Dam reservoir about five years hence, these works being the most enormous ever projected. New York now gets less water than her population needs, but the new works will increase the supply to at least 250 millions of gallons daily, and this is expected to be enough for many years to come, even in this rapidly-expanding city.

The Harlem River winds between its wooded banks below the High Bridge, and has on its eastern side the attractive suburb of Morrisania. Here lived Lewis Morris, one of the signers of the Declaration of Independence, and his brother Gouverneur Morris, a famous New Yorker, who bore a striking resemblance to General Washington. The old Morris mansion stands on the verge of the river not far away from the bridge. Several road bridges carry city streets across the Harlem River and up through Morrisania and the other suburban villages, all of which have now been swallowed up by the great city of New York. Although in earlier times much trouble was taken to make sure that navigation was not obstructed in these waters that connect Long Island Sound with the Hudson River north of Manhattan Island, in practice no commerce of any importance has gone by that route, and it is now not regarded as of value, excepting for small vessels and local traffic. The Harlem River flows south east the

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town of Harlem to the East River, where it divides Manhattan from Ward's Island. This, with Randall's Island to the north and Blackwell's Island to the south, is known as the group of "East River Islands" which was availed of for the city penal and charitable institutions. The "Commissioners of Charities and Correction," who care for these classes in New York, have charge annually of a large population, sometimes as many as 250,000 to 300,000. Their chief buildings are on Blackwell's Island, the long, narrow strip of land stretching nearly two miles in East River off the upper city piers, and being rarely over 200 yards wide, the whole area covering about 120 acres. The buildings are of granite quarried there by the convicts. Bellevue Hospital is adjacent in the city, also in their charge, and has extensive buildings and grounds. Here is the Morgue and the headquarters of the Ambulance Corps, while on the island are almshouses, workhouses, various hospitals and asylums, and a penitentiary. "Sent to the Island" is the announcement made in cases of vagrancy and minor offences. Ward's Island has inebriate and insane asylums, and a soldiers' retreat for men who served in New York regiments during the late civil war. Randall's Island has institutions caring for children and idiots. Hart's Island, over in Long Island Sound, has the pauper cemetery and industrial schools. All the buildings and grounds are on an elaborate scale and are well kept, something like £400,000 being annually expended on their maintenance. The steamboat ride along East River past these institutions, where everything is in full view, is one of the most charming excursions from New York.

South of Ward's Island the Long Island shore juts out, causing the East River passage to be

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curved and narrowed, and here, below where the Harlem River joins the East River, the latter, which turns away from the former and flows around the other side of Ward's Island, goes through the famous pass of Hell Gate to reach Long Island Sound. This was formerly a most dangerous region through which the rapid tidal current boiled and eddied. Hallett's Point, on Long Island, narrowed the channel, and Flood Rock, Pot Rock, the Gridiron, and other reefs obstructed it and made navigation sometimes quite perilous. More than 30 years ago desultory operations were begun to improve this channel, but no comprehensive plan was projected until 1866, when General Newton took charge of the work. The first thing done was the removal of Hallett's Point. This mass of rock projected about 300ft. into the stream, and threw the tidal current from the Sound against an opposing rock called the Gridiron. He sunk a shaft upon the Point, and then excavated the land side into a perpendicular wall which curved around and was designed for the future river bank. Tunnels were bored from the shaft into the rock under the river in a radiating direction, and these were connected by concentric galleries. The design was to remove as much rock as possible without letting in the water from overhead, and then to blow up the roof and supporting columns with a charge sufficient to reduce the rock into fragments which could afterwards be removed at leisure. The labour began in 1869, the shaft being sunk 32ft. below mean low water, and the tunnels drilled out under the river through a tough hornblende gneiss lying in strata of various degrees of inclination, which presented interesting problems as the work progressed. In 1876 the work was finished, and thousands of blasts had been placed in the roof and supporting

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columns ready for the explosion, which was fixed for Sunday, September 24. There was a good deal of trepidation shown in Upper New York, and thousands of people left the city, while throughout the country and in Europe the result of this greatest artificial explosion yet attempted was awaited with deep interest. General Newton's little child touched the electric key that discharged the mine, and the explosion was entirely successful, no accident resulting, the calculations having been made so accurately that the great reef was pulverised and the fragments fell into the spaces excavated beneath it without causing more than a slight tremor in the surrounding region. A similar system of excavation was then begun to remove Flood Rock, in mid channel, and this was carried out upon an even more extended scale than the operations at Hallett's Point. The second great blast, blowing Flood Rock into fragments, was made by General Newton in October, 1885, and was also entirely successful. The tidal current still flows swiftly through the famous strait, but the terrors of the "Hell Gate Passage" are a thing of the past.

The northern portion of Manhattan Island has its most elevated ridges on the Hudson River side. Below the Spuyten Duyvel a bold bluff rises from the river to Fort Washington Heights, where, at an elevation of 200ft. to 240ft., are some of New York's finest suburban villas, their owners having a magnificent view across the river at the bold New Jersey shore, and the grand escarpment of the Palisades stretching far away to the northward. These remarkable columnar formations, which extend for 20 miles along the river on its western bank, are of trap rock, and in parts appear not unlike the amphitheatres adjacent to the Giant's Causeway. Occasionally a patch of trees grows on

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their sides or tops, while broken rocks and rubbish that have fallen down make a sloping surface from about halfway up their height to the edge of the river. These strange rocks in some places rise 500ft. Fort Washington and the opposite bluff, called Fort Lee, were in early times the sites of fortifications defending the river approach to the city, but nothing now remains excepting the names. Fort Lee is a favourite excursion ground, where a grove of trees encloses a pagoda-like structure with double turrets, while extensive buildings and a spacious steamboat landing down at the waterside tell of the popularity of the place. Fort Washington, with its aggregation of villas, lawns, and fine trees, has a prominent object in a mosque-like building with a large dome, surmounted by a smaller gilded dome, which was the suburban home of James Gordon Bennett, of the *New York Herald*. Fort Washington Heights fall off somewhat towards the south and gradually develop into the village of Manhattanville. Here in a depression a broad avenue (150th-street) comes out past the great red brick steeple-crowned structure of the Soldiers and Sailors' Home, and makes a good route down to the river's edge, where there is a ferry landing. There are spacious colleges and also a convent in Manhattanville, and below it the bluff shore again rises to a considerable height above the river. Along the surface of this bluff, and stretching for three miles almost down to the region of piers and shipping, Riverside Park is laid out, making a grand drive overlooking the Hudson. At the upper end of this park and upon its most elevated ground, nearly 140ft. above the river, there is a small round-topped mausoleum standing alone among the trees, and in full view from all the surrounding region. It is a pleasant spot, and the Mecca for

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many pilgrims; for it contains the remains of the American hero, General Grant, awaiting interment beneath the grand monument that is to be erected near by, and will be a landmark seen from afar, and worthy the greatest military chieftain yet produced in the New World.

V.—THE CITY OF CHURCHES.

BROOKLYN, NEW YORK.

New York is said to go over to Brooklyn chiefly to sleep or be buried. It is the dormitory for a large part of the working population of New York; and in its beautiful suburbs are the leading cemeteries where dying New Yorkers lay their bones. Greenwood, which overlooks New York Harbour from Gowann's Heights, in Southern Brooklyn, is the finest cemetery on the continent. The funeral processions constantly crossing bridge and ferries have probably aided in developing the religious fervour of this populous suburb, for nowhere are found so many sacred edifices, and under the ministry of a regiment of clergy, led by men like Beecher, Storrs, and Talmage, Brooklyn has properly earned her popular title of "the City of Churches." This city, the third in the States, being only exceeded in population by New York and Philadelphia, is entirely a growth of the present century, and owes the remarkable expansion of recent years to the inability of New York to spread excepting far northward. Brooklyn stretches several miles along East River and for three or four miles inland, and is growing at such

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a rapid rate that the next census may show a population in 1890 not much below a million, although when this century began it was hard work to find 3,000 people there, and, strange as it may seem, they then had to go over to New York to church. A band of Walloons originally settled the place just about the time that old Peter Minuit was buying Manhattan Island from the Indians. They and their descendants used to drive their cows across East River to Governor's Island, the river being in that part—Buttermilk Channel—shallow enough to be forded, though now this channel is scoured out deep enough to float the largest steamer that comes into the harbour, and the Brooklyn docks and wharves at Red Hook Point and above accommodate an enormous commerce. The little ferry at Fulton-street, which first accommodated the village, has grown into more than a dozen steam ferries of the largest capacity, and a half-million people cross them daily at a halfpenny apiece. To see a human sardine-box packed to perfection it is only necessary to look at a Brooklyn ferry-boat going home about sundown. The thousands who pour through the ferry gates do not hope for seats; if they are only able to get standing room on the boat they are thankful. The ferry is a short one, for the East River is comparatively narrow, being only one-third the width of the Hudson, but the fleet of Brooklyn ferry-boats are the greatest transporters of human beings in the world.

It was to supplement these boats, and in times of fog and ice to relieve them, that the great East River bridge was built. Its massive piers are among the tallest constructions around New York, rising 268ft. above high water. They are built upon caissons sunk upon the rocky bed of the stream, which is 45ft. below the surface on the

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Brooklyn side and 90ft. below on the New York side. At the water line a section of these gigantic piers covers a surface 134ft. long by 56ft. broad. Their towers carry four 16in. wire cables to hold up the bridge, which is 85ft. wide, giving ample passage ways for two tramcar lines, wagon-roads, and footways. The bridge is all of iron and steel, and the cables are made of galvanized steel wire, the floor of the bridge at the centre of the river being raised 135ft. above the water. The distance between the piers is about 1,600ft., and the length of the bridge between the anchorages of the cables is 3,475ft. These anchorages are most massive constructions, each containing about 35,000 cubic yards of solid masonry. The roadway approaching the bridge rises on the New York side from Chatham-street alongside the City Hall Park, while in Brooklyn it comes down upon Fulton-street at some distance from the river; so that the whole length of the bridge and approaches is considerably over a mile. It was 13 years building, having been opened for traffic in May, 1883, by imposing ceremonies, its projector being the late John A. Roebling, and the builder his son, Washington A. Roebling, who caught the dreaded "caisson disease" while supervising the earlier work under water, and for years was an invalid watching the later work from his chamber window on Brooklyn Heights. The Roeblings made 14,361 miles of wire to put into the great cables of this bridge, and their weight is nearly 4,000 tons. The cost of this enterprise, which was shared by New York and Brooklyn, was about £2,800,000, and it has given Brooklyn an impetus which makes the population now increase faster than any other large American city.

Let us cross this famous bridge from New York to Brooklyn. It rises by easy gradient from the

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Eastern border of the City Hall Park towards the centre of East River. The outsides of the bridge on either side are the wagon-roads, while in the middle is the promenade for foot passengers. Between the footway and each wagon-road a tramcar line is laid, the cars being run by an endless cable which hauls them over the bridge in trains of three or four cars, thus greatly aiding the crossing, and having capacity to carry 8,000 to 10,000 people each way every hour. The footway is raised above the outer roads so that the grand view from the bridge is unobstructed. A large number of pedestrians cross on fair days, and the vehicles of all kinds pass and repass in almost unbroken procession. The tolls are ½d. to cross on foot and 1½d. to ride over in a tramcar. The view from the bridge when at the centre of the river is probably the finest which can be obtained in New York. Looking northward, the East River comes down around the sharp bend of Corlaer's Hook on the New York side, opposite which is the deep indentation of Wallabout Bay, on the Brooklyn shore, the place where the earliest settlement was made, and now occupied by the largest navy yard owned by the United States. This yard includes a total area of nearly 150 acres, and has over a mile of wharf frontage. The yard proper is an enclosure of 45 acres, within which is an immense granite dry dock. On the opposite side of Wallabout is the Marine Hospital. Both sides of East River are fringed with piers that are crowded with vessels of all kinds, behind them being vast seas of houses on either hand, while large numbers of craft are moving upon the water. The rattle of the bridge cables that haul the tramcars over and keep up a merry jingling across their pulleys and the gentle vibration of the bridge itself caused by passing traffic combine with the busy hum of the two great

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cities to add to the life of the scene. The shrill whistles of the craft manœuvring along the crowded river punctuate it. Looking southward, the narrow waterway flows into the broader Hudson River, with Governor's Island and its fort and castle spread almost across the mouth of the stream. Red Hook Point juts out from the Brooklyn shore towards the island, while far away to the right is the French goddess holding up her liberty torch from Bedloe's Island. Beyond, the broad harbour, with many vessels, moving and anchored, spreads out for miles to the blue hills of Staten Island that make an appropriate background. On both sides of the East River are the storehouses and piers that accommodate the chief foreign commerce of New York, for to this region come most of the sailing ships from remote countries; and here also is the headquarters of the corn trade, the grain being brought in Erie canal barges and then sent in lighters all about the harbour. On the left hand, down by Red Hook, is the great Atlantic dock, where an enclosure of over 50 acres is made that can accommodate 500 vessels and has over two miles of wharfage, with substantial brick and granite storehouses in close neighbourhood to the wharves. It fronts for a half-mile on Buttermilk Channel. Beyond it, around Red Hook in Gowann's Bay, are the extensive Erie and Brooklyn basins, covering 100 acres. These localities accommodate the heavy goods, coals, iron, timber, corn, sugar, &c., and over £20,000,000 worth are often in the stores. This part of Brooklyn is always a busy place, and behind it rises the aristocratic region of "Brooklyn Heights," displaying rows of fine dwellings and crowned by church steeples, with Gowann's Heights and the foliage and tombs of park and cemetery, seen far away in the distance,

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On the right hand, behind the piers and vessels and storehouses, is the compact city of New York, the tall buildings and towers of lower Broadway rising up, with the square tower of the Produce Exchange marking the southern extremity, beyond which is seen the hazy land of New Jersey. Tall masted ships, drawn by little puffing tugs, pass beneath our feet, and the crowded ferry-boats move crab-like sideways across the river, as they are swung by the currents, on the Fulton ferry, which is just below the bridge. The wind blows freshly across our high perch, for it far out-tops the greater part of the surrounding region. It is much like looking down from a balloon; and it would be difficult to get anywhere in the world a better view of the vast commerce and intense activity of a great mart of trade.

The bridge upon the Brooklyn shore descends at some distance from the river bank alongside of Fulton-street. This is the chief business highway of Brooklyn, and owing to the manner in which various avenues and streets radiate from it, to take Fulton-street becomes, much like Broadway, a necessity for almost every one who moves about in the sister city. It is a broad street with many tramcars and attractive shops. It stretches for five miles to the eastern edge of the built-up portion, and at a distance of about a mile from the river passes the City-hall and other city buildings. Seen over the little triangular grass-plot that fronts it, the colonnade and portico of the City-hall are impressive; but it is not a very large building, and some of the adjacent structures are much more elaborate. The County Court-house is much larger, and, adjoining it, Brooklyn is about completing a fine Hall of Records. The Federal Government is projecting

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a post-office for Brooklyn which will outshine them all. I have already mentioned that most of the chief streets of the city radiate from Fulton-street. This is the case with many of those leading into the popular residential quarter of Brooklyn Heights, where the streets are bordered by trees, and there are rows upon rows of costly brownstone and brick dwellings. Not far from the bridge, Orange-street leads off towards the river, and at a short distance, in a quiet spot, is a plain, wide, brick church, entirely without ornament, excepting that the front wall over the windows encloses a broad brownstone slab with the words "Plymouth Church, 1849." This is the most famous church in Brooklyn, for within it was the pulpit of the late Henry Ward Beecher. The great Puritan preacher came from an old New England family. His father, Lyman Beecher, was for years a noted preacher in Boston and Cincinnati, who, like his son, fought slavery and intemperance. Lyman was erratic, and it is said that after having been wrought up by the excitement of preaching he was accustomed to let himself down by playing "Auld Lang Syne" on the fiddle, or dancing a double shuffle in the parlour. He had a remarkable family, nearly all of his children (he was thrice married and had 13) achieving fame. Four of his sons became clergymen; his daughter, Catharine Beecher, was a noted authoress and teacher; another daughter, Harriet Beecher Stowe, wrote "Uncle Tom's Cabin." Henry Ward Beecher was 77 years old when stricken with apoplexy in March last, and he had been the pastor of Plymouth Church 40 years, being the most widely known of the many clergymen who gave Brooklyn its chief reputation.

A little further along Fulton-street, beyond

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Orange-street, begins Clinton-street, which leads southward through Brooklyn Heights, and is regarded as the chief street of that fashionable quarter. It is embowered with trees and bordered by churches and fine residences, which one after another come into review. At Pierrepont-street is the brownstone Dutch Reformed Church, a Corinthian structure with an elaborate portico and a rich interior. At Montague-street is the Holy Trinity Episcopal Church, of Gothic brownstone, with a tall spire. The next street is Remsen-street, and it with the others extends down to the edge of the bluff, where the Heights fall sharply off towards the river. Here, at an elevation of about 70ft. and overlooking the lower level of the storehouses and piers at the water's edge, is Montague-terrace, where some of the finest residences are located, having a magnificent outlook across the harbour and lower portion of New York and far away to the New Jersey shore. The elevation of the ground gives an unobstructed view over the tops of the storehouses and the vessels, and the ends of the streets are carried through subways down to the shore, where it is necessary to provide a thoroughfare to the ferry-houses. This is as highly prized a region by the Brooklynites as Fifth-avenue and Murray-hill are by the New Yorkers. The ships land their cargoes within a stone's throw of the palaces, and the ladies can see the busy workers on the piers from their boudoir windows. Upon these once exclusive streets, however, the huge French flat houses are now rearing their tall tops, up to which the swift elevators lift the gregarious population, for New York fashions are penetrating as the necessity for habitation increases. On Remsen-street, at the corner of Henry-street, which is one block from Clinton-street, is another famous building, the "Church of the

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Pilgrims." This is a spacious structure of gray cut stone with towers, its most massive tower and spire at the corner being a commanding landmark when sailing up New York Bay. Let into the lower part of this tower, about 6ft. above the pavement, is a small rough-hewn piece of the "Plymouth Rock," brought here from the original rock in Massachusetts where the pilgrims landed. This dark fragment, which has an irregular surface and projects a few inches from the wall, is held as sacred as the old stone of Scone in the "Coronation Chair" in Westminster Abbey. Richard Salter Storrs, D.D., has been the pastor of this church for 41 years, and is an author, lecturer, and pulpit orator of wide repute. At Clinton and Livingston streets is the finest church edifice in Brooklyn, St. Ann's Episcopal, with an adjoining chapel, an elegant brownstone structure in the middle pointed Gothic style. Clinton-street is usually alive with promenaders, and the carriages roll along the smooth roadway filled with well-dressed ladies, for these descendants of the Puritans are much like other folk who have amassed wealth. Almost everywhere one goes in Brooklyn he finds attractive churches, this being an especial feature of the city. On Schermerhorn-street, which leads, however, away from the Heights, is the "Tabernacle" of the Rev. T. De Witt Talmage, the most spacious church in the country belonging to the Protestants. It is not of much outside pretension, but is constructed within in semicircular form, not unlike a theatre, and seats 5,000 people, its pastor always drawing crowded congregations.

The interior of Brooklyn displays miles of rows of comfortable dwellings, varied by church and school-house. In the suburbs are the great cemeteries which are the burial places of New York and Brooklyn together, and they make a

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border of tombs almost around the town. Greenwood, Cypress Hills, Evergreen, Holy Cross, Citizens Union, Calvary, Mount Olivet, Washington, and others occupy many hundreds of acres in lovely situations upon the ridges of hills surrounding Brooklyn. The famous Greenwood Cemetery includes about 400 acres upon Gowann's Heights, south of the city. This is a high ridge dividing Brooklyn from the lowlands of the south shore of Long Island, and having elevations that give charming views. The route out to it crosses various railways, all leading down to Coney Island, which seems to be an objective point of most of Brooklyn's transportation lines. Driving out Fifth-avenue, it leads to a region of florists and stonemasons, and past various extensive monumental marble-works, for these trades all thrive largely upon the sorrows of the mourners. A neat lawn-bordered road leads up to the magnificent cemetery entrance, an elaborate brownstone edifice, highly ornamented, and having a central pinnacle rising over 100ft. It covers two gateways, and is, with the wings, 142ft. broad; over each gateway and on each side is a *bas relief* representing Gospel scenes, the chief being the Resurrection of the Saviour and the Raising of Lazarus. No burial place could have a more appropriate or more splendid entrance, and the grounds open in beauty as soon as the gateway is passed. The hills spread out in all directions, while off to the right through a depression is caught a glimpse of New York bay. The cemetery is an alternation of hills and vales, the hillsides terraced with vaults, while grand mausoleums crown the hilltops, and frequent lakes in the little valleys add to the beauty. Days could be spent in explorations of its many miles of roads and pathways. Vast sums have been spent upon the grander

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tombs, some being constructed upon a scale of magnificence rarely seen anywhere. The pretty rural names of the avenues and walks, the commanding hilltops, the lakes, valleys, delicious foliage and flowers, and grand views of the surrounding country constantly presented, make Greenwood as much a park as a cemetery, and put it in a position that is without a peer. One mausoleum is a large marble church that would hold a numerous congregation. A dozen miniature pantheons and chapels cover the remains of well-known people. A peculiarly-constructed three-sided monument on a little hill marks the resting-place of Morse, the inventor of the magnetic telegraph. Horace Greeley's tomb is surmounted by his bust in bronze on a pedestal. The great De Witt Clinton, the Governor of New York who insured the city's commercial supremacy by the construction of the Erie Canal, has his grave marked by a colossal statue. Lola Montez ended her romantic career in Greenwood. A mosque-like building is the tomb of Commodore Garrison, who was Vanderbilt's rival as a steamship manager. The Steinway tomb is an immense granite building surmounting a hill. The Scribner tomb is crowned by a magnificent marble canopy, beneath which is the Angel of Mercy. The pilots, the firemen, and the soldiers all have grand monuments, the latter with statue sentinels mounting guard at the base, overlooking the waters of New York bay. But among ten thousand grand sepulchres it is almost impossible to particularize, though probably the most splendid tomb in the sculptured marble magnificence of Greenwood is that in memory of Charlotte Cauda, who died in early youth, and her fortune was expended on her grave.

Upon the eastern verge of this attractive place

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there is a high look-out, from which the flat land at the base of the ridge spreads for miles away to the sea. Dim in the distance are the hotels and buildings of Coney Island down by the ocean's edge, and the Navesink Highlands close the view far over the water beyond Sandy Hook. The many roads leading to Coney Island can be traced as on a map, some having trains running upon them. Crossing from the eastern to the western side of the cemetery, and passing a forest of monuments, many people are seen caring for the flowers and graves, for in this all nature is akin. Then another look-out is reached, with a broad view over Brooklyn and the intervening harbour to the hills of Staten Island, with the low Jersey meadow-land beyond. This is the western edge of Gowann's Heights, and the busy commerce of Gowann's Bay spreads at our feet. It is upon this magnificent scene that the marble sentinels guarding the soldiers' monument, erected by the City of New York, look out, the western sun, as it shines over the water, making everything beautiful. From Greenwood to Prospect Park is a short drive, crossing several more railways, all leading, like every other highway, towards Coney Island. Finally, the "Coney Island Boulevard" or "Ocean Parkway" is reached, a splendid road, 200 feet wide, and planted with six rows of trees, which is laid out in a straight line, direct from the south-western corner of the park, down to the noted seaside resort three miles away. Prospect Park is a recent addition to the suburban attractions of Brooklyn, and covers nearly a square mile upon an elevated ridge in the south-western part of the city. The perfection of the decoration and landscape gardening shown in the New York Central Park is not displayed here, but

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it has the perfection of nature, the undulating surface having scarcely been changed, and the fine old trees that grew before it was thought of for a park remaining to give it maturity. Its winding roads, its woods and meadows, lakes and views, combine all the charms of a perfectly natural landscape. From its most elevated point, Lookout Hill, there is a commanding view almost entirely around the compass, stretching over sea and land, and combining Brooklyn and New York, the Jersey and Long Island shores, Staten Island, the Navesink, the harbour, and the ocean. The park has an extensive lake, an enclosure for deer, and an elaborate children's playground, where the Brooklyn Sunday schools come for an outing. Its concert grove and promenade are attractive. We leave this charming place by the main entrance, towards the city, called the Plaza, a large elliptical enclosure, with a magnificent fountain in the centre, where the water pours down over a huge mound, and as the cataract falls it runs over openings that can be brilliantly illuminated. The benevolent face of Abraham Lincoln (in bronze) overlooks the Plaza, which leads out to Flatbush-avenue, and thence into town. Brooklyn has many charms of residence that are wanting in New York, and to these may be attributed much of its rapid growth since the great bridge was opened. It has plenty of room, too, for spreading, both as a city for the living and a home for the dead, as the back country of Long Island is an extensive place that can easily absorb millions more who may overflow from the modern Babylon.

VI.—THE AMERICAN BRIGHTON.

A barren strip of white sand clinging to the

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edge of Long Island, about ten miles south of New York, is the favourite sea-coast resort of the millions who populate the metropolis and its environs. Its hard and gently sloping beach faces the Atlantic Ocean, and gives excellent facilities for sea-bathing. It can easily be reached both by railway and water, and on hot afternoons and holidays the people of New York and Brooklyn go down there by hundreds of thousands. This is Coney Island, separated from the mainland only by a little creek, and having two deep bays indented behind it, Gravesend Bay on the west and Sheepshead Bay on the east. It stands pre-eminent as the greatest watering-place in the world, for there are often poured into it by the dozens of railways and steamboat lines leading from New York and Brooklyn half a million people in a few hours, when the idea takes possession of them to go down to Coney Island. During a hundred days from June until September the Coney Island season is an almost uninterrupted French *fête*, and no Gallic Sunday afternoon and evening can exceed the jollity on Coney Island when a hot summer Sunday sun drives the people down to the sea-shore to have a good time. They spread over the four miles of sand strip, with hundreds of bands of music of various degrees of merit in full blast; countless vehicles moving; all the miniature theatres, minstrel shows, merry-go-rounds, Punch and Judy enterprises, fat women, big snakes, giant, dwarf, and midget exhibitions, circuses and menageries, swings, flying horses, and fortune-telling shops open; and everywhere a dense but good-humoured crowd, sight-seeing, drinking beer, and swallowing "clam

chowder." France is the only country approaching it in similar scenes, and there is nothing like Coney Island elsewhere on the American continent. The French, however, while they may drink wine and beer, can hardly be accused of eating "clam chowder" to any appreciable extent. It is here that the European who lands at New York is first introduced properly to the bivalve to which Coney Island pays tribute—the *mya arenaria* of the New England coast, which is said to have been the chief food of the Pilgrims for years after they landed on Plymouth rock. Hence the devotion of New England and New York to the mysteries of "clam chowder," which, like the "baked beans" of Boston, has become a national dish. Found in abundance in all the neighbouring waters, Coney Island naturally serves up the clam as its most popular food, and it can be got, according to taste, amid the unlimited magnificence (including the bill) of the gorgeous hotels and restaurants of Manhattan and Brighton Beaches, or of varied quality and surroundings at the cheaper shops further westward towards Norton's Point.

The crowds that go to Coney Island on a summer afternoon or evening usually rush back home again the same night, although the hotel and lodging accommodations on the island are constructed upon a vast scale. I am told that the great Coney Island aggregation of wooden structures, some of magnificent proportions and decorations, represents, with the means of getting to them and the general improvements, an expenditure of over £6,000,000. A season is poor indeed which does not have ten millions of visitors who will leave there as many dollars, besides paying their 2s. fare apiece to and from

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the city, which would be five millions of dollars more. Here is a fortune expended on one brief watering-place season, and, with the preparations for gathering this harvest of £3,000,000, it can be readily believed that some of the huge hotels lose money unless they can take in an average of £1,000 a day. Five thousand waiters are said to be employed in the hotels and restaurants when the season is in full movement, besides the necessary regiments of other help. The long sand strip may be divided into four sections, being practically a succession of narrow villages, chiefly made up of restaurants and hotels, built along the edge of the beach and a single road behind it. The original Coney Island, as known to the rough and rowdy New Yorker of a past generation, was the western end, or Norton's Point. The better classes of visitors do not now go to this "West-end," any more than the casual visitor to London explores its "East-end." This western end, which has been a resort of long standing, occupies a considerable portion, and the middle of the island, which is a locality of higher grade, is called West Brighton Beach. Here is the great iron pier, which projects a thousand feet into the ocean, and is a steamboat landing, being a huge two-story structure surmounted by pavilions, the lower part used for extensive bathing arrangements, and the upper floor for promenade and restaurant. Music, electric lights, fireworks, and other attractions are presented upon this pier and its twin brother not far away, and millions of visitors thus get access to Coney Island by water. At West Brighton are also the Observatory, which rears its tall and airy framework high in the air, the "big elephant," and the extensive "Sea Beach Palace," which is used for an hotel and a railway station. It must not be overlooked that every hotel of pretensions in

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this lively place has its own railway to Brooklyn or New York harbour, and that the competition to get possession of visitors really begins at the Brooklyn ferry-houses. The grand "Ocean Parkway," the wide boulevard and drive-way leading from Prospect-park on the edge of Brooklyn, terminates at West Brighton Beach. East of this beach is a vacant space with an interval of nearly a mile between it and Brighton Beach, and over this a fine highway is laid, called the Concourse. Brighton is the third section of the island, and about a half mile further east is the fourth and most exclusive station, Manhattan Beach, a little steam railway connecting them, called the "Marine Railway." Here are the most famous, elaborate, and costly of the Coney Island hotels, the Manhattan and the Oriental, the latter being an immense caravansary of over 500 rooms, which are let at the highest prices obtainable.

Vast crowds, emptied out by the trains arriving every few minutes, on the railways leading over the flat lands from Brooklyn, are poured into these great hotels, and swarm out into the large enclosures fronting them where the bands play. Here are the finest musicians and orchestras, who give afternoon aud evening concerts with many thousands of listeners. Favourite cornet players are paid £100 a week to appear on these occasions, and the prices of board and victuals are correspondingly high. The scene at one of these great hotels on a crowded Sunday afternoon will not soon be forgotten. In front of the enormous building many acres are laid out with wooden pavements and flower gardens spreading down to the beach, where there are pavilions for visitors to look out over the sea, which is prevented by bulkheads from encroaching. The music stand, with its broad

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amphitheatre of crowded seats, faces the capacious piazzas of the hotel. As scarcely a tree can be got to grow, extensive awnings keep off the sun as he moves around to the westward, while the breezes blow briskly from over the water. As evening falls and the crowds thicken, the blaze of illumination and the brilliancy of fireworks are added to the glare of the electric lights, and the bustling crowds, the music, and general hilarity give the air of a great festival. Vast bathing establishments adjoin, with hundreds of separate dressing rooms, and having wooden pathways laid from the rooms down to the sea. Poles and ropes enclose the bathing ground in the water so as to guard against danger. These bathing houses usually have restaurants attached, with open-air exhibition halls, where thousands sit and sip their beer and listen to the performance, much the same as on the Champs Elysées in Paris. Out in front the sea rolls upon the smooth sandy shore, while in full view before us is the pathway of the ocean commerce into New York Harbour. Some of the side scenes are attractive. For a small fee one individual contracts to take care of all children until their parents return for them. He has an extensive place, well stocked with all kinds of playthings, and the babies can amuse themselves and have a good time, instead of being dragged around in the hot sun as their parents may wander over the island. Here sits the "scientific fortune teller" in a booth, and for 5d. produces your fortune, already printed and enclosed in an envelope, after various cabalistic motions are indulged in. A neighbour cuts silhouette profiles out of black paper, and does such a thriving trade that he says his little girl tells him he never comes home excepting to

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count his money and go to bed. Here you can get accurately weighed for 2½d., after having filled up with the "clam chowder" which is so liberally placarded in all quarters. Everywhere the most elaborate preparations are made for serving meals, as the vast crowds must be fed. There are also as extensive arrangements for selling beer, for the laws customary elsewhere in imposing Sunday restrictions do not seem to reach as far as this extraordinary island, and the thirst its atmosphere inspires is of most consuming character. The Marionettes and Midgets give their exhibitions all day, being under the patronage, according to the programme, of "the leaders of fashionable society." The "Convention of Curiosities" is also in session, composed of giants and dwarfs, the man who eats glass, the bearded woman, and others. Rifle ranges abound, the amateur marksmen keeping up a constant popping at the targets.

Westward from this enlivening region an elevated railway as well as the Concourse leads to the Iron Pier and the maze of hotels, restaurants, and shows, all in full operation, that make up the West Brighton beach. Here are Punch and Judy and the fat boy, the snake charmer and the mermaid, the mind-reader, and dozens of merry-go-rounds, flying horses and coasters, all in full tide of prosperous Sunday exhibition. Organs and bands of music are in loud tune everywhere, with crowds watching what is going on and enjoying themselves. The multitude, too, are all good-humoured and orderly, requiring but slight police supervision. Iced milk is varied with beer as a beverage, the milk being drawn from reservoirs shaped like cows. Steam swings are run, these mechanical contrivances for the public amusement being con-

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structed on a grand scale. Base-ball grounds abound —this being the American national game. Scores of places have their touters about, shouting at the crowds to come in and invest their small coins. Here are Cable's and Vanderveer's big hotels and bathing pavilions, with a dozen other large establishments, with music everywhere playing for the entertainment of the jolly multitude. Rows upon rows of smaller places have their flags flying and their signs out to show their devotion to the popular Coney Island luxury—the clam. The "Hotel de Clam" is a pavilion where they cook the clams in full view; and at the headquarters of the "Louisiana Serenaders" one can see the show for a shilling and have "a genuine old style Coney Island Clam Roast" into the bargain. Another establishment announces the "Rhode Island Clam Bake and Shore Dinner, where, in addition to the food, the visitor also gets a copy of the "Song of the Clam," whereof the following are the most thrilling lines :—

"Oh! who would not be a clam like me,
"By maiden's lips embraced?
"And men stand by with jealous eye,
"While I grip the fair one's waist.

"Who better than I? In chowder or pie,
"Baked, roasted, raw, or fried,
"I hold the key to society,
"And am always welcome inside."

The "West Brighton Terrace" is an extensive row of these establishments, and its denizens as they watched the shows and listened to the music seem all partaking of a diet of clams and beer, the children and babies taking their libations the same as their elders. Pedlars also abound who sell all kinds of knick-knacks. For quite a distance along the beach towards the western end at Norton's Point this scene is re-

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peated, and the extensive scale of the eating and drinking arrangements shows how great is the army that has to be cared for. Photographers make an honest penny by taking people's pictures on the beach, and there are "Safe Deposit Companies," where lunch-baskets and parcels are stored until called for. This is the cheaper end of Coney Island, "five cents." (2½d.) being the fee for almost everything, or, as most of the natives put it, "a nickel." The further westward one wanders, however, although the crowds do not diminish, yet the style of the place degenerates.

The great observatory, a light iron frame-work rising 300 feet, having "lifts" constantly running, supports an elevated platform which gives an excellent view. When the journey to the top, which occupies three or four minutes, is accomplished, the first impression made is by the dissonant clangour of the myriads of bands of music below, heard with singular clearness and much more intensity of sound than when on the ground. The noise ascends from all sorts of structures, of every imaginable shape and style, built of wood and generally having flat pitch and gravel roofs. From this high perch Coney Island is seen spread out—a long sand-strip upon the edge of the ocean, with the foaming lines of surf slowly and regularly rolling in upon it. To the eastward, towards Brighton and Manhattan beaches, it bends backward like a bow, with the convex side presented towards the sea. To the westward the curve is reversed, and the extreme point of the island ends in a knob having a hook bent around on the northern side. The "Concourse," covered with many moving carriages, curves around parallel to and just inside the surf line, with the big hotels of Manhattan beach far away beyond it. Behind this long and

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narrow strip of land there are patches of grass and any amount of marsh and meadow stretching away to the northward, and through the marsh can be traced the little stream and series of lagoons that separate Coney Island from the mainland. Far off over the level meadows runs the broad and tree-bordered "Ocean Parkway" towards Prospect-park and Brooklyn, with the hills of the park and the tombs and foliage of Greenwood Cemetery closing the view at the northern horizon. Other wagon roads and a half-dozen steam railways stretch out in the same direction, some crossing the marshes and boggy ground on extended trestle bridges. Upon the beach and open spaces beneath us thousands of people are walking about, while on the ocean side the piers extend out in front, with their processions of steamboats sailing to or from the Narrows to the north-westward around the knob and hook at Norton's Point. Over the water to the southward are the Navesink Highlands behind Sandy Hook and the adjacent New Jersey coast, which gradually blends into the Staten Island hills to the westward. Haze covers the open sea, and far to the eastward, seen across the deeply indented Jamaica Bay, are the distant sand beaches of Rockaway, which is Coney Island's rival, though in a smaller way.

As the night follows the day and a glorious American sunset pales, the artificial lights come out and sparkle all over the place—electricity and gas aiding innumerable coloured lanterns to make an illumination. The music renews its strongest if not its sweetest strains, and gorgeous displays of fireworks burst from before the great hotels. The festival goes on with uninterrupted pleasure and hilarity throughout the evening, until the crowds get an idea that it is time to go home,

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and then comes a stampede for the railways and steamboats. Over land and water the great human current sets towards New York and Brooklyn. The crowds that have been so orderly are still well-behaved and they stream through the ticket-gates in an almost resistless tide, the trains and steamers being loaded and despatched as fast as possible. It is when the time arrives for going home, and these swelling torrents of humanity flow out upon station and pier that the vast magnitude of a Coney Island Sunday crowd can best be measured. No other watering-place has such an aggregation of near-by people to draw upon, for it is estimated that over three millions of population are within a brief ride, and hence its great popularity among the masses of New York and its neighbourhood.

VII.—THE LONG BRANCH BLUFF.

As New York's "masses" seek their brief summer recreation at Coney Island, so do the "classes" pass a longer season at Newport and Long Branch. The sea-coast of Northern New Jersey for over 20 miles southward, from Sandy Hook to Manasquan Inlet, is a succession of popular watering-places. The earliest attraction was the bluff at Long Branch, where a broad plateau, 20ft. above the sea level, comes out to the beach, and is covered with the hotels and cottages of the summer population. This celebrated place, which in the days of President Grant, who loved it well, was known as the "summer capital of the United States," is about 10 miles south of Sandy Hook,

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and is reached both by railway and steamboat. Other towns are spread along the bluffs and beaches both up and down the adjacent coasts, so that the summer population often exceeds 200,000. Here are Seabright and Monmouth Beach, second in fame only to Long Branch, and Ocean-grove and Asbury-park, which are noted religious colonies, the former being a popular Methodist camp meeting. They are all the growth of the last 25 years, and the earlier people who set the watering-place fashion for the Long Branch bluff built their houses out much beyond the present line of the cliffs, upon land that the sea long since washed away. It has taken elaborate constructions of protective sea-walls to prevent further encroachment, and even now the great storms occasionally make serious inroads. The Navesink Highlands, which are the landmark for the mariner approaching New York, mark the northern limit of this villa-bordered shore. The narrow strip of Sandy Hook juts out northward beyond them, and in the bay behind it the Navesink or Shrewsbury river, which flows at their feet, finds its outlet. These highlands are bold and picturesque, their highest summit, called Mount Mitchell, rising nearly 300 feet. Upon Beacon-hill, their eastern declivity, which is at the mouth of the Shrewsbury, stand the twin lighthouses guiding to the New York harbour entrance, located about 100 feet apart. The southern light—a revolving Fresnel, at an elevation of 250 feet above the sea—is said to be the most powerful light on the Atlantic.

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coast. Its rays reach 40 miles out to sea, or as far as the horizon permits. This and the adjacent hills are almost entirely occupied by villa sites, and there is seldom found a finer place for grand views over ocean, bay, and river. The Shrewsbury is more an arm of the sea than a river, and it gives excellent opportunities for all aquatic diversions. It comes out past the pretty town of Red Bank, and below the highlands has a fascinating nook formed by Branchport Creek, where the trees grow in clustering groves down to the water's edge, and known as Pleasure Bay. Here can be found, if anywhere, luxurious repose, and here has been attracted quite a settlement, where the popular Shrewsbury oyster can be got direct from its native home.

Southward from the highlands stretches the narrow strip of sand dividing the river from the ocean. Out on the ocean front there are thousands of fine wooden cottages, some costing large amounts. There are hotels with colonies of outlying cottages, whose occupants in modern fashion look to the hotel for their meals. Railway and wagon road are laid side by side behind the cottages, while inland the fishing settlements of an earlier date line the shores of Shrewsbury river. The beach gradually develops into the town of Seabright, where the profusion of ice-houses shows the devotion of the inhabitants to fishing, and this in turn becomes Low Mour and then Monmouth Beach. At intervals of about three miles are the life-saving stations, this being

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a coast where wrecks are frequent of vessels mistaking the New York entrance in times of fog or storm. They have tasteful little buildings to house their boats and implements. The pyramid-topped ice-houses of the fishing town of Galilee are in sharp contrast with the villas on the beach, and hundreds of nets and fishing boxes spread about give zest to the signs that are displayed, announcing "Lobsters" and "Soft Shell Crabs." Not a tree grows, but the profusion of grass which overlays the sand relieves the glare of the sun, and pretty lawns and flower gardens adorn most of the villa sites. These villas are usually of ornamental design, Swiss châlets and Queen Anne cottages being numerous. The sand beach as we proceed gradually rises to a bluff, and Monmouth Beach at its lower end displays many very handsome establishments. Passing Atlanticville and the Land's End, where it is said the Indians came in early times to fish, the road finally brings us to Long Branch, which is a town stretching about five miles along Ocean-avenue, the great driveway on the edge of the bluff bordering the Atlantic. In the older portion, the hotels and cottages are back of this avenue, with little lawns and gardens in front, and a narrow strip of green sward bordering the roadway on the ocean side, with an occasional summer-house or pavilion on the brink of the bluff. Below, at the foot of the steep declivity, which is maintained by strong bulkheads, is a narrow beach where the waves roll in. Some distance inland a small and irregular stream, with a series of narrow little lakes in its course, flows northward to Shrewsbury river, and this, popu-

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larly known as the "long branch" of that river, has given the place its name. Few ocean views are more pleasing than that from the succession of porches and verandahs fronting the long rows of fine buildings on Ocean-avenue. The surf booms upon the beach at the foot of, but hidden by, the bluff, while to right and left, as far as eye can see, is the broad road and its green borders, with the white-topped waves rolling in and tumbling into breakers. An iron pier juts out to make a steamboat landing, while upon the sea there are hundreds of vessels in sight, and several steamers from Sandy Hook southward bound leave their long black smoke-lines against the sky as they crawl along like specks upon the water. The beach is shelving and the waves come closely in before breaking, so that the surf-line is narrow. The grass grows down to the edge of the bluff, for, unlike most of the American coasts, this is all good, fertile land, and sustains, behind the rows of houses, fine trees and luxuriant vegetation.

Beginning at the eastern verge of Long Branch, let us take a survey of this noted place, until the bluff fades away into Deal Beach, beyond the aristocratic "West-end." It must not be supposed, however, that Long Branch is only upon the edge of the sea, for it is a thriving settlement, having several thousand permanent inhabitants, whose homes spread far back into the interior. The village of East Long Branch, which is passed in going inland towards the northward is quite a thriving town. A succession of great summer hotels border Ocean-avenue, in the neighbourhood of the pier, which is flanked by summer-houses. Further on is a low cottage with double porches, and very pretty to look at—the Stockton Cottage—which is said to have been the first built at Long Branch. Beyond is the West-end Hotel, where the avenue

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by a bend leaves the edge of the bluff, and goes between the hotel and an ornamental building, known as its "Annex"—this being the costliest hostelry in the place, and in the height of the season the centre of attraction. The pyramid towers of the "Annex" are a landmark at Long Branch, and its magnificent suites of apartments are let at quite as magnificent prices. Ocean-avenue now runs south-westward in the West-end, with rows of fine villas on either hand, those on the left facing the sea, and having their summer-houses on the edge of the bluff. Extensive and, in most cases, quite ornamental grounds surround these villas, and no expense has been spared upon them. A large part of the great wealth of New York and some from Philadelphia has been devoted to the enrichment of the West-end of Long Branch, and every available lot is occupied, there being among the hundreds of villas many that are of note. Mr. A. J. Drexel, the banker, whose bank is the leading one in New York and Philadelphia, spends his summers here in a square-built cottage, surmounted by a cupola, and having a profusion of shrubs trained over the porches and about the grounds. The Seligmans also have attractive cottages near by. Adjoining is a series of stately villas that were built out of the profits of a popular medicine —"Mrs. Winslow's Soothing Syrup." On the right hand side of the avenue a beautiful cottage, with surmounting towers, is the summer-home of the inventor of the "Pullman Palace Car." Out on the ocean front is "Sea Cliff-villa"—a broad and comfortable Swiss châlet, partly embowered in running vines, which is George W. Childs' residence. Hedges enclose the lawn, and adjoining is a modest cottage behind a grove of trees, which is probably the best known at

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Long Branch. It is occupied by the widow of General Grant, and for 16 years was the General's summer residence, where he has often said that he spent the happiest hours of his remarkable career. Beyond it is an oddly-built structure of large size, with pinnacle-crowned towers and brick chimneys running up outside the main tower walls. In this castellated mansion lived Commodore Garrison, whose widow is now the occupant. The West-end gradually becomes the village of Elberon, where the elaborate hotel has a large colony of outlying cottages, whose tenants conduct their housekeeping in their own way, but draw their supplies from the hotel. This Elberon Hotel is a large villa and gets its name by a lingual twist from that of its owner, Mr. L. B. Brown. It was built by Mr. Franklyn, long the agent of the Cunard Steamship Company in New York. Mr. Franklyn afterwards moved into a less pretentious reddish-brown house a short distance westward. It was to this building that President Garfield was taken after being shot by the assassin Guiteau in Washington, and in one of its upper chambers he lingered for weeks and finally died, amid the universal mourning of the English-speaking world, in September, 1881. The Swiss châlet is the prevailing fashion, but an odd-looking Normandy house is just beyond the Elberon wherein Victor Newcomb, a prominent railway man in Wall-street, enjoys the breezes. Beyond this the bluff shore ends, and the avenue passes out of Long Branch towards Deal Beach.

The most famous seat at Long Branch is the estate of Hollywood, the home of John Hoey, located some distance inland and back of the "West-end." Cedar-avenue runs back to this estate, and advancing up the drab-coloured drive bordered by a line of yellow and red fence on

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either side, a wonderland appears. Twenty-one palaces of startling architectural design, painted a brilliant red with yellow facings, surmounted by gilded cupolas and spires, are perched upon low knolls upon a stretch of greensward. All the styles of all the nations seem to have been combined in their design. Some are called "hotels" and others are "cottages," and in them live railway kings and merchant princes gathered in an artificial summer paradise where life is costly—one of the most remarkable places in America. Adjoining is Mr. Hoey's home, there being nearly 100 acres laid out in garden and park, the yellow and red decorations and colouring being predominant. The flag flying from the mansion-house when the owner is at home is a signal seen throughout the village, and the rows of cottages and the hotels adjacent yield him a princely revenue. Elaborate care has been taken in decorating these grounds with flowers and trees; and successions of lawns, groves, and flower-beds, with winding roads leading through them, fill up the broad surface of the level land, while far within the park rises the mansion almost like a tropical house, with piazzas up to the roof, and the lower stories enclosed in glass. There are acres of palm-houses and greenhouses, and orchids and cactuses are in full supply. Flowers are daily sent from these perennial gardens to the fortunate people who live in the adjacent cottages; and Hollywood is thus maintained as the show place of Long Branch. The Adams Express Company, the chief carrier of parcels in the States, an opulent and powerful organization, made the fortune that maintains this seaside paradise.

An intervening expanse of meadow, with an occasional bog or stream, separates the "West-end" of Long Branch and Elberon from Deal

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Beach, the bluff becoming exhausted, and being succeeded on the shore by low sand-hills. Scattered farmhouses, hotels, and cottages front the ocean, and the road soon crosses the sparkling waters of "Great Pond," and enters Asbury Park, a summer city of many thousands, and one of the most thriving settlements on the New Jersey Coast. Here has been established by a body of schoolmasters and savants, for philosophical and other discussions, what they call the "Summer School of Pedagogy," wherein is found a variation of the usual methods of seaside recreation. In this region there are a succession of long and narrow fresh-water lakes, reaching almost to the sea, and their banks are fringed with cottages. There are thousands of little houses clustering together just at the back of the beach and fronting upon the long straight streets which cross at right-angles. Here are "Sunset Lake" and "Wesley Lake," with a populous town between and far beyond them—a town largely of boarding-houses—swarming in summer and almost deserted in winter. The wide avenues lead at regular intervals down to the broad sand beach, where there is excellent surf bathing. The pretty Wesley Lake, full of little boats, is the southern border of Asbury Park, and the pleasant row of cottages on the opposite side give the visitor the first view of the great Methodist "camp-meeting" settlement of Ocean Grove, which in July and August will have a population of seventy thousand. We are rowed across the lake for a penny and enter the town. It is owned by an association who designed it as a summer resort for Christian families and have a charter empowering them to make laws for its government. No intoxicating liquors are permitted to be brought into the place; all unbecoming behaviour is prohibited.

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and bathing, boating, and driving are strictly forbidden on Sundays, when all the entrance gates, excepting those by footpaths, are closed and locked. This grove has become immensely popular with the Methodists, and draws its visitors largely from Philadelphia. It is mostly cut up into little cottage lots, measuring thirty by sixty feet, upon which wooden cottages are built. The plan of the town shows its religious origin. The projectors first obtained a comparatively small tract of land on the south side of the Wesley Lake for their "camp meeting" ground, and here, at about a thousand feet from the beach, they located their "Auditorium," which is a spacious roof surmounted by cupolas covering a platform and seats capable of accommodating many thousands. Here, and in the "Tabernacle," and the "Temple," which have since been built, the religious services are held, and the most noted Methodist clergymen come from all over the States to assist at them. As Wesley Lake lies diagonally from the ocean, short streets run from this camp-ground north and west to the lake, while eastward, down to the sea, there is opened a broad avenue, called the "Ocean Pathway," with gardens on each side, and bordering rows of cottages. This gives a wide open space direct from the sea to the "Auditorium," along which the sea-breeze comes without obstruction. All around the "Auditorium" is a broad surface with platforms for tents and ample room for overflowing crowds. On the south side is the "Tabernacle," an attractive church. In front of the tenting ground, and laid out at right angles to the "Ocean Pathway" is the "Pilgrim's Pathway," while other streets, called Mount Zion Way, Mount Tabor Way, and Mount Carmel Way, run northward to the shore of the lake,

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Mount Hermon Way is south of those, and more streets in the extending settlement are named after prominent Methodists. Fletcher Lake is another pretty sheet of water in the settlement, and besides thousands of cottages and boarding houses, and any number of tents, it contains several ornate structures, a library, and other costly buildings, though everything is constructed of wood.

Among the curiosities of this settlement plainly showing its religious characteristics is an extensive topographical model of Jerusalem, laid out with great care and exactness, which reproduces in faithful miniature the sacred city. The town is properly called Ocean Grove, for it is filled with little trees giving a delightful shade. No city is more crowded than it is during the "camp meeting" season. In addition to the usual daily services in the "Auditorium" there will then be held "surf meetings" on the edge of the ocean, where congregations of many thousands unite in services in the open air. It is a cool place, and the amber-coloured cedar water of the lakes adds to the attractions; but its rules are strict, and possibly most cosmopolitan visitors might ultimately tire of the crowds and the restrictions. But it has spread at a more rapid rate than any other settlement on this popular coast. Shark River Inlet, an arm of the sea, bounds it to the southward, and beyond is another settlement of comfortable-looking wooden houses known as Ocean Beach. Below this, set just inside the ocean, is a perfect little gem of a lake, known as Spring Lake, surrounded by cottages, and also having its big hotel. Another great arm of the sea comes in further on—Wreck Pond Inlet—and beyond is Sea Girt. Here the coast is fringed with buildings, an enormous hotel being set right on the shore, where the waves dash up to the

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edge of its immense piazzas. This is about the southern limit of the summer settlements on this famous coast, which for 20 miles is a succession of watering-places. They say they usually have no mosquitos, which are a pest of low sand-beaches and the salt marshes that often adjoin them, but the mosquitos are plentiful this season, and occasionally a thick fog rolls in and saturates everything, while the listener can hear the fog-whistles blown as warnings by the steamers passing cautiously along. The railways that are laid in convenient proximity to this attractive sea-coast region give easy access from both New York and Philadelphia, and the settlements, though none of them are yet 30 years old, and most of them are newer, already have all the adjuncts of cities but a public graveyard. To bury the dead the people go some distance inland, behind Long Branch, to Branchburg. Here, in an unattractive cemetery, are interred chiefly the unfortunates who have been shipwrecked on this treacherous shore, and in one common grave are buried 200 emigrants drowned in a ship that was driven ashore at Great Pond. In fact, the stranding of steamers is an almost constantly recurring excitement for Long Branch and its neighbourhood, and the season is rare that does not bring an important wreck. The vessels can rarely be saved, and most of them are stranded because their navigators mistake Long Branch lights for those at Sandy Hook entrance.

VIII.—FROM THE HUDSON TO THE DELAWARE.

The Channel Island of Jersey has its name reproduced in one of the most prosperous of the

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American Commonwealths. The American New Jersey is a narrow State, lying between the old "North River" and "South River" of the earlier explorers—the Hudson and the Delaware. Barely 50 miles in width, it separates the two greatest States of the American Union, the "Empire" and the "Keystone"—New York and Pennsylvania. Through its advantages of position, this shrewd community manages to make both of its wealthier neighbours pay it tribute. The great railways leading from New York and Philadelphia cross it, and all have to yield toll. It is largely a land of market gardens for the supply of those populous cities, and of sea-coast and mountain resorts for their recreation. Its own population is made up to a great extent of the overflow from New York and Philadelphia, of people who prefer suburban homes, where light taxes and other advantages, added to convenient railway access, give them more attractive and certainly healthier dwellings than if they were in the metropolis. Hundreds of thousands of Jerseymen daily flock over the great Hudson River ferries to their regular labours in New York. The eastern side of this broad river is covered with settlements that owe their existence entirely to the proximity of New York. For several miles the river bank on the Jersey shore is lined with the docks, piers, ferry houses, stations, and elevators of the trunk railways, behind which have grown up a series of populous towns. The Reading, New Jersey Central, Pennsylvania, Erie, Lackawanna, and West Shore Railways monopolize the entire river front with their terminals, from which the steel rails stretch to the most remote

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portions of the continent. Here are Jersey City, Hoboken, and Weehawken, and a few miles in the interior Newark, the largest city of New Jersey, and beyond it Paterson, Elizabeth, Rahway, and New Brunswick, all of them little more than dormitories for New York. Jersey City was originally Paulus Hook, a tongue of flat farming land, with a rocky backbone called Bergen-hill, thrust out between the Hudson River and a broad estuary known as Newark Bay. At the beginning of this century its population was only 13 persons, living in a single house. Its great growth has been since the development of the railway system in the last 30 years. While spreading over much surface, it has little attractions beyond its enormous terminals and the factories that are adjacent, and it is a very good specimen of an American railway town, for those enterprising and at the same time monopolizing public conveniences have managed to capture the entire city front and much of its surface, and to bisect it in all directions with their lines, the whole of them seeking western outlets, by going around or boring tunnels through Bergen-hill. The northern portion of the settlements on the Hudson River bank is known as Hoboken, which is a noted location for steamship docks and stores, and beyond is Weehawken. The early Dutch settlers brought the name of Hoboken from the Scheldt, whence they came originally.

The huge ferry-boat of the Pennsylvania railroad carries us over the Hudson River to the extensive station at Jersey City. This boat is like scores of others traversing the river—a veritable Noah's Ark that can carry thousands of passengers and many wagons on a single trip. It is a flat-bottomed, broad-decked craft, driven by huge paddle-wheels, and having wagon-roads in

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the centre for the accommodation of the vehicles, with a spacious cabin on either side. On the right hand is the "ladies' cabin" and on the left hand the "gents' cabin"—this latter diminutive indicating that time and space are both precious in this busy, hurrying country, and therefore require the word "gentleman" to be thus abbreviated. The huge boat is a "double-ender," sailing with equal facility either way, so that all the wagons drive on at one end in New York, and when the boat has crossed the river are ready to drive off at the other end. It makes its landings in a "slip" under a house, so that full protection is given in stormy weather, and a timber bridge, moving up and down at the outer end as the tide rises or falls, connects the boat with the land, the craft being guided accurately into place by the long sides of the "slip" which jut out into the water. These boats make the passage every few minutes, so that the river crossing is easily traversed, and they carry an enormous traffic. Going aboard the "gents' cabin" is sought, but soon deserted, for the free-born Americans, who congregate there in large numbers, have saturated the floor with tobacco juice and managed, by smoking vile pipes and worse cigars, to convert the atmosphere into an odorous substance almost solid enough to cut. Then the ladies' cabin is visited, and is found to be a broad and comfortable place, with tiled flooring, mirrors, electric lights, and capacious seats, which are largely occupied by the men, whose lives would have been endangered had they remained in the "gents' cabin." Prominent signs forbid indulgence in tobacco on the ladies' side of the boat. The ferry is quickly crossed and the crowd of people and wagons emptied out into the station in Jersey City. At the head of the ferry

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slips, of which there are half a dozen, is a broad avenue 500ft. long and 60ft. wide, covered over and giving ample room for the crowds to walk about, and across this the multitudes go to and from the boats. A brigade of troops could almost manœuvre and countermarch in this Jersey City ferry-house of the Pennsylvania Railroad, and adjoining it is the extensive railway station, with its waiting rooms and offices, whence the train starts that is to carry us 90 miles from New York to Philadelphia.

The train moves swiftly out through Jersey City, and, rising from the street level, soon plunges into the deep rock cuttings that carry the line into Bergen-hill. Far off to the southward, over the salt marshes, can be seen the harbour and its islands, with the Liberty Statue a prominent object in view. Then, passing through the rocky hill, the railway crosses these meadows for a long distance, and we move quickly over the vast level expanse towards Newark, crossing the Hackensack River and skirting along the banks of the Passaic, upon which Newark stands. While rolling smoothly across the level land of Jersey, let us take a brief look at this typical American railway train, which presents much that is a novelty to English eyes. It is a "two-hour train," traversing the distance between the two great cities, and making two or three stops in that length of time. It is running upon the finest piece of railway construction in America—the New York Division of the Pennsylvania Railroad—a solid road bed, kept in excellent order, smooth, stone-ballasted, with heavy steel rails and four parallel lines of metals, giving separate double systems for the passenger and the goods traffic. Rushing along at a mile a minute our 80-ton locomotive, which measures

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with its tender a length of over 60ft., draws a train of almost a dozen long coaches. The four lines of metals are laid at grade, and at every few miles the signal towers mark the sections of the block system, and control the semaphores that direct the engine drivers. The road-crossings are guarded by watchmen who open and shut the safety gates and thus prevent accidents. The passengers can wander through the train at will, going from one end to the other if they wish, and enjoying perfect freedom of movement. The luggage and express coaches are next to the locomotive, and following them is the "parlour car." This is a luxurious coach fitted with comfortable arm-chairs that revolve on pivots, and having broad windows giving a good view of the passing scenery. For an extra charge of two shillings this coach may be taken. It has convenient toilet rooms and a buffet, so that lunches may be had while riding along. The ordinary passenger coaches follow, with roomy seats arranged like the pews in a church, the backs turning over so that the passenger may ride forward or backward as he chooses. A long aisle passes down the centre, and is the highway of travel through the train. The conductor comes along to examine the tickets, and the baggage master to see such passengers as may desire to arrange for the delivery of luggage; and a large proportion of the passengers promenade about to see and talk with acquaintances or otherwise relieve the monotony of the journey. Large plate-glass windows afford an excellent view, and the high top of the coach has plenty of ventilators. Everything is in good order and cleanly kept; the railway servants are obliging and show every courtesy; and by wandering to the end of the train a good outlook is got over the line and the adjacent country.

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The train rolls across the Passaic River drawbridge and into the city of Newark, where a brief halt is made. This is the chief city of New Jersey, spreading far over the level land on each side of the railway, while its northern suburbs extend up on the hills of Orange. It is the shire town of the county of Essex, showing how English names are reproduced in this western land. The train crosses Market-street to enter the station, a magnificent highway running through the business section, and the line proceeds among rows of great factories for miles in traversing this extensive city. It is a large manufacturing centre, and the Morris Canal leading from the Upper Delaware river to the Passaic, as well as several lines of railway, bring the Pennsylvania coals to its doors. It is also a great suburban outlet for New York, and has a considerable area covered with comfortable and even handsome residences, through which runs its finest avenue, Broad-street, 132ft. wide, bordered with many ornamental buildings, shaded by majestic trees, and skirting three attractive parks embowered with elms. Newark makes good carriages, leather, and beer, and few would suppose it had a strictly Puritan origin. Yet such was the case, for its original settlers were pilgrims from New England, led by their minister, Abraham Pierson, who had in early life preached in Newark, England, and gave their Jersey settlement its name. The train starts up, and glides rapidly along the fenced-in line, with its gates at the street-crossings, past rows of factories, and then out among the pretty suburban villas, past lawns and gardens, and across the dark red level soils towards Elizabeth. This is another rural suburb of New York, whose merchants come out to sleep in the comfortable houses on its broad and shady streets. It spreads under

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the name of Elizabethport eastward to the strait behind Staten Island, and over there are most of its mills and factories, and also extensive coal shipping piers to which much of the coal mined by the Reading Railroad is sent. In the heart of the city we cross at grade the line of the New Jersey Central Railroad, which runs down to Elizabethport, and then by a long trestle-bridge across Newark Bay and into Jersey City, this being the route by which the Reading Railroad gains access to New York. Elizabeth is a pretty place, and an ancient town (for the States), the original settlement on the little Elizabeth river dating from 1665. Its leading manufactory is an enormous one, the works of the Singer Sewing Machine Company. The train runs rapidly through this attractive town, crossing the streets and cutting the house-lots diagonally, and for a long distance passes row after row of suburban villas, with gardens and groves surrounding them, which line all the highways far out into the rural section. Off to the eastward over the level surface can be seen the hills of Staten Island across the strait that separates it from the mainland.

Station after station with ornamental buildings, lawns, and flowers, well kept and attractive, rushes by the windows, and the line begins to wind among some low hills. It quickly passes through Rahway, noted as a great carriage-making town, having 20 factories in active operation. The railway again cuts all the house-lots bias, and the train still winds among the hills, and flits by the little gems of gardens and pretty stations nestling by the roadside. Village after village is passed, each with its little church and tall spire, pointing upward, as some one has said, as if a lightning rod to avert the wrath of Heaven. At 25 miles from New York is Menlo Park, where

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the inventor Edison toiled for years to perfect his electrical discoveries. He has since located his factory and home in Newark, and his office in New York, though still called by admiring friends "the Wizard of Menlo Park." Not far beyond, at Metuchen, the Lehigh Valley Railroad runs under our line on its way down to its coal-shipping piers at Amboy on Raritan Bay, south of Staten Island. Then we dash across the Raritan river, over a high bridge, the chocolate-coloured stream bearing on its bosom much of the dark red soils washed out by recent rains, flowing down through wooded banks, the turgid waters seeking an outlet in the Raritan Bay, 15 miles below. Along the western bank is the extensive basin, on a higher level than the river, of the Delaware and Raritan Canal, which here terminates in New York waters, and delivers an extensive commerce brought over from the Delaware. We rush through New Brunswick, skirting the corner of its college grounds, and are in the county bearing the familiar name of Middlesex. Here are more factories on the lowlands alongside the river and canal, and a handsome town upon the higher grounds which encircle the older portions like a crescent. The red sandstone college buildings and attractive grounds we are rushing by with so little ceremony are those of Rutger's College, a seat of learning of the German Reformed Church, which is flourishing and richly endowed. It has an adjunct in the New Jersey Agricultural College, with an experimental farm of 100 acres; while to the northward, and occupying a commanding position above the river, is the Theological Seminary of the German Reformed Church with its buildings.

Leaving the region of the red soils, the Pennsylvania Railway now runs in almost a straight line across the level land to the Delaware River at

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Trenton. Dimly seen, far to the northward, are the hazy outlines of the spurs of the South mountain range, the southernmost of the Alleghenies. The train makes high speed on the smooth roadway, with a procession of east-bound trains darting by and showing the enormous traffic carried by the line. We pass much forest and bog, and an occasional station or railway junction, though the region is but sparsely settled. Soon can be seen to the westward over the plain the steeples of Princeton, rising apparently out of a park, so thick is the foliage around them. Princeton is a small town, but one of the most noted in New Jersey, three miles away from the main railway, a quiet place containing many elegant residences. It is chiefly prominent as the location of the College of New Jersey, better known as Nassau Hall or Princeton College, over which Professor James M'Cosh, who came from Belfast in 1868, presides with so much success. Fine buildings surround its *campus*, and it is liberally endowed. Dr. John Witherspoon, the celebrated Scotch Presbyterian divine, who was one of the signers of the Declaration of American Independence, was at that time and for 30 years its President, and among its graduates were two other signers, Richard Stockton and Benjamin Rush. Its Library and School of Science are magnificent buildings of modern construction. The original "Nassau-hall," which was burnt many years ago, and to which the College was brought from its first foundation in Elizabeth, was erected in 1757 "to the immortal memory of the glorious King William the Third of the illustrious house of Nassau." It suffered greatly in the war of the Revolution, and around it raged the final skirmish of the battle of Princeton in 1777. Washington afterwards presented 50 guineas

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to the college to repair the building. Princeton is one of the noted seats of American learning, ranking with Harvard and Yale, and it has flourished wonderfully under the care of Dr. M'Cosh, who has had great influence upon the development of American thought and philosophy.

A few miles further, and the line descends the grade towards the Delaware river, and runs at a low level under the southern part of Trenton, the capital of New Jersey. We have passed from Middlesex into Mercer county, named in memory of General Hugh Mercer, an American patriot of Scotch birth, who fell on its soil in the battle of Princeton. The railway goes under the streets, and also through tunnels beneath the Delaware and Raritan Canal and its feeders, and then out upon a fine iron bridge crossing the Delaware river, which is at this part a rapidly flowing stream about 300 yards wide, and filled with boulders, South Trenton being the head of navigation. Canals are constructed on both banks, mainly for the cheap carrying of coals from the Lehigh mines, located near one of its chief tributaries, the Lehigh river, debouching some distance above Trenton. The New Jersey capital spreads along the eastern bank of the river and for a good distance inland. It is a thriving city, two centuries old, and chiefly famous for its battle-ground, now built over to such an extent as to interfere with the periodical "sham battle of Trenton," which is fought, with a final feast, to revive revolutionary memories. It is also noted for its potteries, established by colonies of workers from Staffordshire, who supply almost all the crockery for the States. Much of the town is filled with canals and also with the conical kilns of these potteries, dropped down at random, and all apparently in full operation with a prosperous trade.

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Trenton is built over beds of clay, so that the materials are dug out of the ground almost alongside the place of manufacture. The finest and most delicate decorations adorn their goods, and the thoroughness with which these imported potters do their work has almost stopped the importation of china ware from Europe. The Trenton State House, where the New Jersey Legislature meets, has gardens fronting the river, at the foot of which the swift current bubbles among the rocks and boulders, and adjoining the public grounds are rows of fine residences. The city shows every evidence of thrift and prosperity, and although it often, in times of active legislative quarrels, displays exhibitions of questionable politics, yet these Jersey lawgivers usually manage to govern at light direct cost to the people, for they are noted in the States for the skill displayed in making outsiders supply most of the expenses of local government.

Rolling across the Delaware river bridge the train enters the great "Keystone State" of Pennsylvania, the line curving around to the southward towards Philadelphia, over 30 miles away. We are now in the county of Bucks—again an English name, and proceed for a long distance upon a rich agricultural plain, having some of the most productive farm-land in America. On one side is a canal, and at varying distances on the other side, as its shores wind along, is the river. Past village and farmhouse, among the nest of mills at Bristol, the English town being here reproduced 23 miles from Philadelphia as the county seat of Bucks, and then ultimately into a thickly-settled region of suburban villas, with handsome grounds, the line leads us, its east-bound metals burdened with series of trains bearing coals, petroleum, timber, corn, and cattle, as well

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as many passengers, towards New York. Broad streams are crossed, all falling into the Delaware, and the population steadily increases until the railway, which has grown into five parallel lines, enters a region which is a succession of mills and villages. These are Tacony, Bridesburg, Frankford, and others, all outlying suburbs that make part of Philadelphia, a city covering more surface than any other on the continent. Huge steel and iron foundries, cotton, woollen, and cordage factories, carpet mills, and every sort of industrial establishment are passed, the intervening surface disclosing thousands of comfortable dwelling-houses for the operatives. It is evident that the Philadelphia working man is much better housed than his New York brother, who is herded with dozens of other families in a crowded and often repulsively filthy "tenement house." For miles the railway runs through these industrial portions of the expanded manufacturing city, approaching it from the north-east, and then diverging from the Delaware river, going through the northern and north-western sections towards the Schuylkill river. The line crosses street after street, many laid with tramways for local travel, and the train halts a moment at a busy suburban station, where a branch goes off to Germantown. Then it skirts along some cemeteries, and entering a region of low hills it suddenly comes out from among them upon a high-bridge crossing the Schuylkill. Few scenes of greater beauty are given than this which quickly bursts upon the view as the train on its elevated line crosses the river and Fairmount-park. The Schuylkill placidly lies between tree-clad sloping banks, and curves grandly around both above and below the bridge. On either shore are well-kept park roads, filled with carriages, and thousands of people are out for an airing. A broad iron bridge

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carries the great highway of Girard-avenue across the river just below, and it passes under us on the western bank. To the right hand are the groves of the higher grounds of the park, and to the left the delicious shades of the Zoological-garden, which contains the finest collection in the States. Everything is luxuriant and smiling, while down the river are the domes and steeples and towers of the city, with its bridges and mass of buildings beyond the park that fill up all the view. The railway turns down the western bank, and then for a great distance the train runs along the vast distributing yard of the Pennsylvania Railroad, which occupies hundreds of acres in West Philadelphia, with the city grown all around it. Here come together railway lines from all directions, concentrating a vast goods traffic from many thousands of miles of line that has to be assorted and passed on to its destination. To the west goes out the line to Pittsburg and the Mississippi Valley; to the south the line to Baltimore and Washington. Past thousands of cars, many extensive railway buildings and shops, with locomotives snorting and puffing in all directions, our train moves upon a line which has gradually risen above the level of the yard; then quickly curves to the eastward, and, almost doubling upon its previous course, goes over the yard and out to the Schuylkill. Directly ahead is the tall white tower of the City Hall, unfinished, but rising far above the buildings, with a galaxy of other steeples, domes, and towers around it. We swiftly re-cross the Schuylkill to its eastern bank, and move along an elevated line among the tops of the houses right into the heart of Philadelphia. A moment later the train halts in the "Broad-street Station," and we go out into the City Hall-square, in the centre of the "Quaker City."

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IX.—THE QUAKER CITY.

The prosperous city founded two centuries ago by William Penn is chiefly built upon a broad plain between the Delaware and Schuylkill rivers, about 100 miles from the sea. The Delaware is a wide stream that comes from the Catskill mountains in New York State, and breaking through the Alleghanies about 80 miles north of Philadelphia flows from the north-east to its wharves, and broadening into the estuary of Delaware Bay reaches the ocean between Cape May and Cape Henlopen. A redoubtable old skipper of the Dutch East India Company, Captain Carolis Jacobsen Mey, came along there in 1614 with a small fleet of 60-ton frigates, and tried to give the river and the capes his various names, but only one has survived, in the sea-coast watering-place of Cape May. Thomas West, the third Lord De La Warr, who was at that time the Governor of Virginia, in his voyages both before and after 1614 was in the bay, and both bay and river were given his name, which was also assumed by the Indians living on the banks with whom Penn made his treaties, and afterwards by the "Diamond State" of "Little Delaware," bordering the bay and river's western shore. The Schuylkill river is a mountain stream, about 120 miles long, coming from the north-west through the anthracite coalfields of Pennsylvania, and falling into the Delaware, in such a lowland region just below Philadelphia, that its mouth is scarcely dis-

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cernible. In fact, the early Dutch explorers of the Delaware passed and repassed the place and never discovered it, and when the stream was afterwards found by going overland and traced down to its mouth, they appropriately named it the Schuylkill, which means "the hidden river." A low alluvial plain stretches for miles back of the confluence of the two rivers, and finally rises into hills of gravel and rock towards the west and north-west. Upon this plain and the undulating surface around it Philadelphia is built, being in shape between the rivers much like an hour-glass, although the city has recently spread far west of the Schuylkill. The Delaware in front of the built-up portion sweeps around a grand curve from north-east to south, and then, reversing the movement, flows around the "Horseshoe bend" below the city from south to west to meet the Schuylkill. This extended river front, with that on the smaller river, gives about 20 miles for docks and wharfage, so that quite a large commerce is carried on both streams, and the town being encircled by railways its trade reaches a grand aggregate. It is the headquarters of two of the greatest American railways, both being largely owned in England, the Pennsylvania and the Reading. Their lines encircle the city, go through it in various directions, and their managers are generally able to rule it so far as to get from it whatever they want. It is these railway and commercial conveniences, together with the ample room for spreading in all directions and the proximity to the coalfields, added to the cheapness of living, that have made Philadelphia the greatest manufacturing city in the world, and attracted to it a million of inhabitants. It is surrounded, through the alluvial character of the shores of both rivers, by a region of the richest

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market gardens, and the adjacent counties embrace a wealthy agricultural and dairy section. Clay underlies a large part of the surface, and this makes bricks for building. Living is consequently cheapened, and the people are able to command their own homes, the occupant, through a most extensive use of building associations and savings funds, being usually the owner of his house. There are a thousand miles of paved streets and nearly two hundred thousand dwelling houses, while more buildings are put up year after year by the thousands, as acre upon acre of new territory is absorbed by the rapidly growing city.

When William Penn laid out his town-plat he made two broad highways pointing towards the four cardinal points of the compass and crossing at right angles in the centre, at which he located a public square of ten acres. His east and west street, made 100ft. wide, he placed at the narrowest part of the hour-glass, where the rivers approached within two miles of each other, their confluence being six miles below. This he called the High-street, but it is now known as Market-street. His north and south street was laid out in the centre of the plat, and at its southern end reached the Delaware near the Schuylkill's mouth, while the northern end was produced indefinitely. This he made 113ft. wide and called Broad-street. Upon the public square in the centre of the plan there was built a Quaker Meeting-house, the Friends, while yet occupying the caves under the banks of the Delaware that were their earliest dwellings, showing anxiety to maintain their forms of religious worship. This meeting has since multiplied into scores in the city and neighbouring regions, for the sect, while it may not increase in numbers like some others, fully holds its own in

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wealth and importance, and has still great influence in modern Philadelphia. After more than a century had elapsed, the pump-house and reservoir of the waterworks were placed in this Centre-square. These fulfilled their duty until the Fairmount Waterworks were established, and then the place was made a park. Finally, it was determined to utilize the ground for a new city hall, and for 16 years Philadelphia has been erecting there a grand structure of white marble, which is one of the most magnificent buildings in the world. It is now almost completed, and the tower, which is the great landmark in approaching the city from every direction, is intended to be taller than any other steeple in existence. Upon the apex will stand a colossal bronze statue of William Penn, the founder, who will gaze complacently over his vast City of Brotherly Love, grown far beyond the dimensions he gave it and spreading away in every direction. The Centre-square, which has now become the City-hall-square, is the official centre of Philadelphia, but it has ceased to be the geographical centre, which, through expansion of population, is now located nearly a mile northward, on Broad-street.

William Penn not only started his settlement on principles of the strictest rectitude, but he was thoroughly rectangular in his ideas. All the streets on his plan were laid out parallel to the two prominent ones, so that they crossed at right angles, and his map thus made the town a perfect chessboard. This plan has been generally followed in the newer districts, although a few country roads in the outer regions that were laid upon diagonal lines have been absorbed by the city's growth. Penn's city also included four other squares, located near the outer corners of his plan. These cover about seven acres each.

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and he designed them, as his earliest map states, "to be for the like uses as the Moorfields in London." They were unnamed for a long time, and during many years three of them were used as cemeteries. The two that were south-east and south-west of the centre were early surrounded by the built-up city as it spread westward from the Delaware front, and they were ultimately given the names of Washington and Franklin, being now attractive little parks that are the breathing places of populous localities in the older portion of the city. The north-western and south-western squares were named at a later period, the former after James Logan, who was Penn's secretary, and the latter after David Rittenhouse, the philosopher. They are now centres of fashionable residence, and are both popular parks. Fronting upon Logan-square is the largest and most imposing church in the city, the Roman Catholic Cathedral of St. Peter and St. Paul, a grand Roman-Corinthian structure of red sandstone, whose lofty dome, rising over 200ft., is seen from afar. This cathedral, which is the seat of the Archbishop of Philadelphia, covers 136ft. by 216ft., and has a finely decorated interior. The Academy of Natural Sciences, containing the best natural history collection extant, with over 250,000 specimens, also fronts this square. Rittenhouse-square is surrounded by dwellings, and is bordered by West Walnut-street, which may be described as the Fifth-avenue of Philadelphia, being the most coveted location for private residences. The Holy Trinity Church, the leading Episcopal church, is on Walnut-street, fronting this square. For a long distance this fashionable thoroughfare is lined by imposing residences, generally of brownstone in the newer portions, and the chief local ambition among the parvenus is to get there to live.

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The Pennsylvania Railway on the arrival at Philadelphia lands its passengers in an elaborately constructed station on the western side of the City-hall-square, so that the first view in the Quaker city upon leaving the building is of the magnificent City-hall, whose marble walls rise in graceful beauty far above the pavement, and exceed in grandeur of construction and comprehensiveness of plan anything we have yet seen in the States. This vast structure covers about 5½ acres, and is built in the form of a quadrangle around a central courtyard about 200ft. square. The sides of the building measure respectively 486ft. by 470ft., and Mansard roofs and Louvre domes surmount the four lofty stories. The entire edifice is of white marble, the broad tower having already risen 360ft. and is to be carried to a total height of 557ft., the Penn statue to be put on top being 36ft. high. This tower is 90ft. wide at the base, and at 361ft. elevation will have clock faces 20ft. in diameter. The building is the largest on the American continent, having over 14 acres of floor surface, and containing more than 500 apartments. It is designed to accommodate all the Law Courts and the offices of the city governments, several departments having already moved in. Its cost will be £3,000,000, and the patient people of the town are paying for it entirely out of the annual tax-rates, about £100,000 to £140,000 being devoted to the purpose each year. The work began in 1871, and the mammoth corner-stone, weighing eight tons, was laid in the north-eastern angle of the foundations of the tower in 1874. A wide open space surrounds this City-hall, and from the centre of each side Broad-street and Market-street stretch towards the four points of the compass—wide passage-ways for pedestrians being opened

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through the great building on the line of each street. Upon the northern side of City-hall-square, at the corner of Broad-street, stands the Philadelphia Masonic Temple, the finest Masonic edifice in existence, built of granite, a pure Norman structure, 250ft. long, 150ft. wide, and having a tower rising 230ft. It is richly ornamented, and is used exclusively by the various Masonic bodies, who meet within in the fine halls in the interior, each finished in accordance with an order of architecture—the Norman, Corinthian, Doric, Ionic, Egyptian, Oriental, Italian, Renaissance, &c. The Temple with its furniture cost £300,000, and its carved and decorated granite Norman porch is universally admired. To the northward, on Broad-street, at the next corner Arch-street, is a cluster of churches, each a model of classic construction. On the south side of the square, and extending through to Chestnut-street, is the white marble building of the United States Mint, where all the coinage is executed, and work is now going on day and night at manufacturing the short-weight American silver dollar, which cannot be forced into circulation. Over two millions of these "Daddy dollars," which the "silver party" compel to be coined because they are of the same weight as the "Dollar of our Fathers," are turned out every month, and are then stored in the Treasury vaults as security for a paper circulation, because the people will not have them. To the eastward of the square is a great bazaar, which is one of the features of Philadelphia—John Wanamaker's store. This is an aggregation of shops, selling all kinds of goods, and covering an entire block of about four acres. It is the great social exchange for the ladies, who troop there by thousands to meet their friends, make purchases, and see and hear what is

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going on. Its owner, John Wanamaker, is a typical American, who runs two or three other large business establishments in addition to this one, is the chief manager of the biggest Sunday school in town, devotes much time to art and finance and the management of the Reading railroad, and also occasionally dabbles in politics. Like most energetic business Americans, he began with almost nothing, and has amassed a fortune, though yet a young man. He recently bought the painting of 'Christ before Pilate" for £24,000, the masterpiece of the Hungarian painter, Munkacsy.

The chief street of the Quaker city is a narrow and crowded highway only 50ft. wide, parallel to and just south of Market-street. This is Chestnut-street, which crosses Broad-street at a short distance from the front of the southern elevation of the City-hall. Its western end is a residential section which, like its companion, Walnut-street, is prolonged far beyond the Schuylkill river for miles into West Philadelphia. For some distance, both east and west of the crossing of Broad-street, it is a region of attractive shops. To the eastward it then passes among the newspapers and banks, and finally into the section of busy wholesale trade for several blocks until it terminates at the Delaware river. The southern sidewalk on Chestnut-street is the fashionable promenade. One block westward from Broad-street, upon Chestnut, is the massive sandstone and marble building of the Young Men's Christian Association. A leisurely stroll eastward along this famous street will give probably the best impression of Philadelphia. The Mint is passed, and the Wanamaker store, with rows of palatial shops. One entire block of these, between Eleventh and Twelfth streets, with all the

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buildings northward to Market-street behind them, were given the city by its greatest benefactor, Stephen Girard. At Twelfth-street is the imposing marble building of the White Dental Manufacturing Company, where artificial teeth are made for all the world. At Tenth-street the Mutual Life Insurance Company has a grand structure, with the Mercantile Library, the largest in the city, behind it, and the office of the *Philadelphia Inquirer* opposite. On South Tenth-street is the Jefferson Medical College and Hospital, Philadelphia being the leading medical school in the States, the students coming from all parts of America. At Ninth-street is a corner adorned with magnificent buildings. The post-office of granite, with a frontage of 400ft., rises high above the street, surmounted with the flags and vanes of the Weather Bureau, this grand Renaissance structure having cost £1,000,000. Adjoining it is a perfect gem of a building which is the office of the Philadelphia *Record*. On the opposite corner is a row of splendid white marble stones. The easternmost corners have the largest hotels of the city—the Continental and Girard, each a popular hostelry. At Eighth-street is the tall and handsome *Times* building, and just above it the *Daily News*. Upon Eighth-street, some distance south from Chestnut, is the Pennsylvania Hospital, standing in ample and well-shaded grounds. At Seventh-street is the *Press* building, and on Seventh-street, northward from Chestnut, is a colony of newspaper offices and printing houses, that locality being known as "Printing-house-square," the building at the corner being the office of the oldest daily newspaper in America, the *North American*. In the midst of this typographical region is the plain and substantial edifice of the Franklin Institute,

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designed to promote the mechanical and useful arts, and having a fine library, museum, and lecture-hall. The stately brown-stone *Public Ledger* building is at Sixth and Chestnut streets, this being the leading newspaper of Philadelphia, and published by George W. Childs. It faces Independence-square, and near it are the offices of the *Evening Bulletin* and the *German Demokrat*.

Our Chestnut-street promenade has now brought us to the most hallowed locality of American patriotic memories. Upon the *Ledger* corner is a statue of Benjamin Franklin, while a short distance further down the street is a statue of George Washington. Independence-square is an open space of about four acres, occupying the block between Chestnut and Walnut and Fifth and Sixth streets, tastefully laid out in flowers and lawns, with spacious and well-shaded walks. Upon the northern side of the square, and fronting Chestnut-street, is Independence-hall, a modest brick building, yet the most interesting object that Philadelphia contains. It was in this house, known familiarly as the "State-house," that the Continental Congress met, which governed the thirteen revolted colonies during the American Revolution, excepting when driven out upon the British capture of the city in 1777-78. The Declaration of Independence was adopted here July 4, 1776. The old brick building, two stories high, plainly built and lighted by large windows, was begun in 1732 and took three years to build, having cost what was a large sum for those days, £5,600, the population then being about 10,000. It stands back some distance from the street line, leaving a broad flagstone pavement in front, which is planted with trees. On either side are rows of dingy low buildings, occupied by city officials, which do the locality little credit, and

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being of modern construction ought to be removed. A larger building ends the row at each street corner, that of Fifth-street being the office of the Mayor. The State-house has a central corridor passing through it to the square, and is surmounted by a tall wooden steeple with clock and bell. Hanging from the roof of this corridor in such position that while in full sight it cannot be touched is the famous "Independence bell." This bell, originally cast in England, and sent to Philadelphia for the State-house steeple, has running around its top the prophetic inscription, "Proclaim Liberty throughout the Land unto all the Inhabitants Thereof." It rang out in joyous peals the news of the signing of the Declaration, and is the most precious relic the country possesses. It formerly was rung on anniversaries, but about 50 years ago was unfortunately cracked. The high and inaccessible location given it was a necessity for preservation, as relic-hunters have already knocked off much of the lower parts. Occasionally, however, the bell is taken down, and is carried under guard upon a pilgrimage around the country to receive the homage of the populace. A wide stairway rises beneath the bell to the upper storey, which is used as the meeting place of the City Councils. It was here that Washington delivered his "Farewell Address" in closing his term of service as the first President of the United States. On the lower storey there is a room on each side of the corridor, and it was in the eastern room that the Congress met, this being the celebrated room of the building. The apartment is preserved in the same form as when the Congress sat, and the old chairs and tables and other furniture used at that time have been gathered together and replaced there. On the walls are the portraits of the signers of the Decla-

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ration, with those of several Revolutionary officers, and also the original "Rattlesnake flags" with the motto, "Don't Tread on Me," that were the earliest flags of America, and preceded the Stars and Stripes. A tiled floor has replaced the old one, which was worn out, but otherwise the room is in its original condition. It is about 40ft. square.

The western apartment is of the same size, and is used as a depository of Revolutionary relics. Upon entering the most prominent object seen is West's large painting of "Penn's Treaty with the Indians," which is supposed to represent the founder negotiating on the banks of the Delaware at Shackamaxon for the purchase of the Indian title to the lands in Pennsylvania. Alongside is a fine portrait of King George III. Few Englishmen probably know that there is preserved in Independence-hall, in Philadelphia, as a precious relic, one of Allan Ramsay's best portraits of the King whose name was once so odious in the American colonies. It is a full-length portrait representing him when a young man in his coronation robes. The walls are also adorned with excellent portraits of his ancestors, George I. and II., also of Queen Anne, William III. and Mary, and of Charles II., and there is a valuable collection of autographs and letters written by these Sovereigns. The presence of so much British royalty under the very shadow of the liberty bell testifies to the friendliness now existing between the mother country and her vigorous offspring. The portraits of William Penn and of his wife and relatives are prominent, and there is also preserved the original charter he gave to Philadelphia in 1701, with much else that is of interest. A facsimile of the Indian wampum belt representing a treaty is also preserved, wherein strings of beads

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indicate the terms of the agreement made, and a stout man shaking hands with a smaller, thin one, also rudely worked out in the beads, is interpreted as the treaty between Penn and the Indian. The original is held by the Historical Society. Ancient weapons, books, paper money, crockery, and clothing are preserved in cases, the clothing showing much of the unmistakable Quaker hue and fashion. Among the garments is a set of infant's clothing made by Mrs. John Adams at the birth of John Quincy Adams—both father and son having been Presidents of the States. Many interesting local portraits hang upon the walls, including that of Thomas West, third Lord De La Warr, who named the Delaware river. The coats of arms of the 13 colonies first forming the American Union adorn the cornice. The old Hall has quite a flavour of historic sanctity. Not far away from it on North Fifth-street is the Quaker graveyard where Franklin is buried. His remains, with those of his wife, lie under a flat stone just inside the wall, and an opening, protected by an iron railing, gives passers-by a view of the spot. Penn, Bradford, Franklin, Morris, and Girard are all closely intertwined with early Philadelphia history, and their names are everywhere reproduced.

East of Independence-hall, Chestnut-street crosses Fifth-street, and both sides are then lined with magnificent buildings, all of them banks and financial institutions. The great Drexel bank of white marble stands at the corner, and beyond it on either hand are a dozen buildings of grand construction, wherein are many millions of capital. These banks are built with fine interiors, their ceilings rising high above the floors, with the light usually admitted from above. The Drexel bank was founded by Francis M. Drexel, and its

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present owner, his son, Anthony J. Drexel, is the wealthiest Philadelphian of this generation, and is usually the leader of the greatest financial movements in the States. To the eastward is a solid Doric building, fronted by eight massive fluted columns, supporting a heavy entablature. This is the Custom-house and Federal Treasury, and was originally built at a cost of £100,000 for the United States bank. During many years this institution, which ultimately suspended, was a leading bone of contention in American politics. Standing under its portico, the view of the row of banks on the opposite side of the street shows one of the finest series in existence,granite and marble being varied in several orders of architecture. Upon Fourth-street, south from Chestnut, are the offices of the Reading and Pennsylvania Railroads, enormous buildings,the former of brown-stone and the latter of granite, with a narrow passage-way between them. The presidents of those railways are said to actually govern more men, control more active capital, and wield more real power than any other officials in the country. Eastward of Fourth Chestnut-street has more financial institutions, and in one of them—the Guarantee Trust and Safe Deposit Company—is the largest fire-proof safe in existence, a three-story structure, divided into six separate rooms. Along-side this building, at the end of a narrow court, and some distance back from the street, is another house of great historical interest, a plain, two-story brick building of modest dimensions which is carefully preserved. This is the hall of the Carpenters' Company, and in it in 1774 the first Colonial Congress assembled, which paved the way for the Revolution.

Third-street is a region of bankers' and brokers' offices. South of Chestnut-street is a fine marble

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building occupied by the Girard Bank, which was copied from the Dublin Exchange. This was Stephen Girard's bank until his death. Behind it is the Stock Exchange, which, with the bank and most of the neighbouring buildings, is part of the estate Girard gave the city. Below, at the corner of Walnut-street, is the Merchants' Exchange, a splendid marble edifice, having a semi-circular colonnade on its eastern front, which opens upon a broad street leading down to the river. On Walnut-street are rows of offices of insurance companies, and this is a centre of the mercantile quarter, the merchants occupying most of the space eastward to the Delaware. The Government Customs stores extend through from opposite the Merchants' Exchange to Second-street, and here is the brown-stone Chamber of Commerce building, which stands on the site of William Penn's old dwelling known as the "Slate Roof House," and afterwards occupied by John Hancock, who presided over the Continental Congress, and later by Benedict Arnold when he ruled Philadelphia for the King. Second-street, north of Market, has the venerable Christ Church, built in 1727, the most revered Episcopal church in the city and the one to which Bishop White came after his consecration at Lambeth a hundred years ago. It still possesses the earliest chime of bells sent out to America, and the steeple, rising nearly 200ft., is a prominent object seen from the river. Warehouses line Chestnut-street east from Second, and the noted street finally leads down a sloping hill to the water's edge, the wharves having been projected some distance beyond the original bluff shore. Here on either hand long lines of piers and vessels stretch for miles in a grand semi-circle, for the Delaware River bears a heavy commerce. The opposite shore beyond the intervening Wind-

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mill Island is low and level, and over there, a mile away, is the flourishing New Jersey suburb of Camden. Standing on the end of a pier the grand sweep of the river is seen with the broad stretch of wharves and docks of the Pennsylvania Railway at the southern end and the low, black outline of the Reading Railroad coal-piers at the upper end. Not even an apology for a hill is visible, all the land being the low river shores or the equally low outlying islands. To the north-east are wide extents of factories and iron-mills, with heavy, overhanging smokes, and busy ship-yards loom up among them in the Kensington district. That was once the best-known portion of primitive Philadelphia—"the neutral land of Shackamaxon." It was here, during centuries before Penn's arrival, that the Indian tribes from all the region east of the Alleghanies, between the Great Lakes, the Hudson River, and the Potomac had been accustomed to kindle their council fires, smoke the pipe of deliberation, exchange the wampum belts of explanation and treaty, and drive bargains with each other. Some came by long trails hundreds of miles overland, and some in their birch canoes by water and portage. It was on this "neutral ground" by the riverside that Penn soon after his arrival held his solemn council with the Indians, sealing mutual faith and securing their lifelong friendship for the infant colony. This treaty, embalmed in history and on canvas, was probably made in November, 1682, under the "treaty elm" at Shackamaxon, which was blown down in 1810. This tree was kept sacred by the early inhabitants, and the spot where it stood, now covered in by iron-mills and ship-yards, is marked by a neglected and decaying monument bearing the significant inscription, "Treaty Ground of William Penn and the Indian Nation, 1682.—Unbroken Faith."

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Thus began Penn's City of Brotherly Love, based on a compact which, in the words of Voltaire, was "never sworn to and never broken."

X.—THE QUAKER CITY, ITS PARK AND SUBURBS.

In the early settlement of Philadelphia the city was on the Delaware river front. It gradually spread westward towards the Schuylkill river, crossed it, and now extends several miles beyond. The growth of the city has caused no less than fourteen bridges to be built over the Schuylkill, and several new ones are contemplated. The two chief streets in Penn's plan, as I have heretofore stated, were Market-street and Broad-street, which intersect at City Hall-square, its great white tower standing at the intersection being the landmark, visible from all parts of these wide highways. Market-street is a great mart of trade, and stretches nearly six miles westward from the Delaware, with its rows of storehouses and shops. Arch-street, parallel to and north of Market-street, was the favourite place of Quaker residence, and at Fourth-street and Arch-street was one of their prominent meeting houses. But business has invaded this once exclusive region, and the venerable meeting-house and its graveyard in the block to the westward, where Franklin is buried, are now intrenched around by stores and factories. It was the adoption of the principle that every man should live in his own

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house, supplemented by liberal extensions of tramcar lines, that has made Philadelphia grow. Four, six, eight, and ten roomed dwellings have been built by the mile, and set up in row after row as the city expanded. Two-story and three-story houses, of red pressed brick, with marble steps and white or green window shutters, make up the greater part of the town, and each house is its owner's castle, this owner being in most cases a successful toiler who has saved his house out of his hard earnings, literally brick by brick. It has been lamented by some of Henry George's disciples that his land theories "take" better in every other large American city than in his native town of Philadelphia, and the reason is apparent. Most Philadelphia householders are landowners, and, having laboured hard to get their homes, they hesitate before espousing schemes for a "new divide." There is almost limitless surface in the suburbs yet capable of absorption in the same way, and the process which has given Philadelphia the largest city surface in America will go on indefinitely. The population also is more representative of the Anglo-Saxon races than in most American cities, although the Teuton numerously abounds and speedily assimilates. There is one large manufacturing section of the Quaker city, in the north-eastern quarter, that is almost entirely English and Welsh, and in this region of busy weaving mills are said to be made more carpets in a year than are produced in all England. It literally makes carpets for all the world. The English are loyal to old country memories, they have their flourishing benevolent societies, and their head-quarters at St. George's-hall on Arch-street, a

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short distance from the City-hall, is one of the finest assembly rooms in Philadelphia. St. George is slaying the Dragon in a magnificent bronze group surmounting the front façade, and on all English gala days the British standard floats over the building. The greatest extent of Philadelphia is upon a line from south-west to north-east, which will stretch fifteen miles upon a continuous surface of paved and lighted streets and buildings.

Broad-street, which is the popular highway for the display of processions and pageants, is built upon for seven or eight miles, and is extended about thirteen miles north and south of the City-hall. At the southern end is League Island, the location of a Government Navy-yard. Northward for some distance the street crosses the alluvial lands of the "Neck," mostly prolific market gardens. The broad granite building of the Ridgway Library stands in the centre of a lawn about one mile south of the City-hall. It cost £350,000, a bequest from the late Dr. James Rush, and is a free library of reference attached to the Philadelphia Library as a branch, one of the restrictions of the gift, however, excluding newspapers, because they are vehicles of "disjointed thinking." Several public institutions and attractive churches and residences adorn South Broad-street, and at Locust-street is the Academy of Music, the largest opera house in America. The favourite box in this temple of music and the drama is known as the "Prince of Wales's box," having been occupied by him when he visited the city in 1859. On Locust-street, east of Broad-street, the Philadelphia Library has handsome quarters, it having been founded in 1731 by Franklin and his friends, who there formed a literary club called the "Junto." Northward from Locust-street to the City-hall is a distance of three blocks, and

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this is one of the most important sections of Philadelphia, having fine hotels at the intersections of Walnut and Chestnut streets, and also having the attractive building of the chief club in the city, the Union League, which represents the dominant Republican party in local politics. Passing the City-hall-square and its attendant Masonic Temple and cluster of churches to North Broad-street, the profusely ornamented Academy of Fine Arts is located at Cherry-street, a magnificent structure in the Byzantine school, containing a valuable collection of paintings and statuary. Beyond this, Broad-street passes through a shabby quarter that is in a transition state, grand buildings being constructed in what was formerly a region of railway storehouses that have since been abandoned. Here are the armouries of the local troops, the Homœopathic College and Hospital, the Catholic High School, and some others. Beyond them the Reading Railroad has a passenger station, and then the Baldwin Locomotive Works, one of the most extensive factories and the largest of its kind in the country, extends for a long distance. The adjacent blocks, far back from the street on both sides, are filled with iron mills and foundries, this being the Congress district which sends to Washington the Pennsylvania Protectionist champion, William D. Kelley, who is familiarly known as "Old Pig Iron Kelley." Spring-garden-street, which is lined with fashionable residences, crosses Broad-street at right angles, and then there are more churches, while beyond, for a couple of miles, the street is bordered with magnificent dwellings, and is a favourite drive and promenade. Here live hundreds of the wealthy manufacturers and successful business men who have made fortunes, and spend large amounts upon the adornment of their homes, and

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the street runs northward beyond them through the populous suburbs to Germantown.

In its northward course, at the distance of about a mile and a half from the City-hall, Broad-street intersects Girard-avenue. This grand highway, over 100ft. wide, stretches almost from the Delaware River westwards to the Schuylkill, which it crosses upon a splendid iron bridge, just below the crossing of the New York division of the Pennsylvania Railroad. Girard-avenue, in its course westward from Broad-street, diverges around the enclosure of Girard College, which occupies grounds covering about 42 acres. The name of Stephen Girard, to which I have already referred, is a familiar one in Philadelphia, and before the advent of Astor at New York, his was the greatest American fortune. Stephen Girard was born in Bordeaux in 1750, and, being a sailor's son, he began life as a cabin boy. He first appeared in Philadelphia during the Revolution as a small trader, and after some years' trafficking was reported in 1790 to have an estate valued at £6,000. Subsequently, through trading with the West Indies, and the advantages that a neutral had in the warlike period that followed, he amassed wealth rapidly, so that by 1812, when he opened his bank, he had a capital of £240,000, and so great was the public confidence in him that depositors flocked to his bank; he increased its capital to £800,000, and when the United States got into its war with England in that year he was able to take, without help, a Government loan of £1,000,000. He was a remarkable man, frugal and parsimonious, but profuse in his public charities, though strict in exacting every penny due himself. He contributed liberally to the adornment of the city, and erected many fine buildings. He despised the

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few relatives that he had, and when he died, in 1831, his estate, then the largest known in America, and estimated at £1,800,000, was almost entirely bequeathed for charity. He left donations to hospitals, schools, masonic poor funds, for fuel for the poor, and other charitable purposes, but the bulk of his fortune went to the city of Philadelphia, part for the improvement of its streets and the Delaware river front, but the greater portion to endow Girard College. This was left in the form of a bequest of £400,000 in money and a large amount of lands and buildings, together with the land whereon the college has been built. He gave the most minute directions about its construction, the institution to be for the support and instruction of poor white male orphans, who are admitted between the ages of six and ten years, and between the ages of 14 and 18 years are bound out as apprentices to various occupations. A curious clause in the will provides that no ecclesiastic, missionary, or minister of any sect whatever is to hold any connexion with the college, or even be admitted to the premises as a visitor, but the officers are required to instruct the pupils in the purest principles of morality, leaving them to adopt their own religious beliefs. The college is of white marble, and is the finest specimen of Grecian architecture in the States. It is a Corinthian temple surrounded by a portico of 34 columns, each 55ft. high and 6ft. in diameter. The whole length of the building is 169ft., its width 111ft., and height 97ft., the roof being made of heavy slabs of marble, from which, as the college stands on very high ground, there is a grand view over the city. Many other buildings, some but little less pretentious than the college itself, are located within the enclosure. This comprehensive charity supports and educates from

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1,200 to 1,500 orphan boys, and for nearly 40 years has been in successful operation.

Excepting to the southward, Philadelphia is surrounded by a broad belt of attractive suburban residences, the semi-rural region for miles being filled with ornamental villas and the comfortable tree-embowered homes of the middle classes. West Walnut and Chestnut streets, with the adjacent regions north and south, make up the popular suburb of West Philadelphia. Here, in a commanding location overlooking the Schuylkill river, are the grounds and buildings of the University of Pennsylvania. This is the leading seat of learning in the Quaker city, and it includes medical and law schools of great prominence, as well as the scientific departments, having also an extensive hospital attached. The institution dates from 1745, and is munificently endowed. West Philadelphia spreads a long distance northward and westward, and has gradually surrounded and enclosed the extensive yards and shops of the Pennsylvania Railway, which cover a large surface adjacent to the Schuylkill river. The attractive suburban features spread northward across the Schuylkill, and are largely developed in the north-western portions of Philadelphia and the well-known sections of Germantown and Chestnut-hill, Jankintown, and the Chelten-hills. The wealth of the people in all this wide section has been lavishly expended in making their homes attractive, and the suburban belt for miles around Philadelphia displays shady grounds, well-kept lawns, and pleasant lanes, with scenery that is essentially English. The chief attraction of these suburbs, however, is Fairmount Park, one of the world's largest pleasure-grounds. It includes the lands bordering both sides of the Schuylkill above the city, and was primarily esta-

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blished to secure the purity of the water supply, which is taken from that river, by protecting its shores from contamination. Fairmount Park includes nearly 3,000 acres, and its sloping hill-sides and water views give it unrivalled advantages in delicious natural scenery. At the southern end are pump-houses, and the oldest water reservoirs, covering six acres, on top of a curious and isolated conical hill, about 90ft. high, which is the "Fair Mount" that gives the park its name. The Schuylkill is dammed at this point to retain the water, and the park borders the broadened river for seven miles above, and its chief tributary, the Wissahickon Creek, for six miles further. Entering this beautiful park alongside the Fairmount-hill, the road leads past a fine bronze statue of Abraham Lincoln, with surrounding fountains and flower gardens, and then skirts a row of ornamental boathouses on the river bank, and, passing beneath the rocky cliffs of Lemon-hill and the bridges above, reaches a broad plateau. Here the city is slowly constructing a vast water reservoir, whose unfinished banks look like the slopes of a grand fortress. Winding about, past hill and ravine, with glimpses over river and city, the road leads about two miles to Edgely, and comes out upon the bluff shore a hundred feet above the river, disclosing a most glorious landscape. The placid Schuylkill is at our feet, and as we look up-stream curves around towards the left, with green hill-sides on either hand most richly clothed in verdure. Little boats dot the water, and an occasional steamboat passes laden with pleasure seekers. Away in the distance is the Falls village, another industrious settlement of English factory hands, through which the Reading Railroad runs. The railroad bridge crosses the river, its stone arches making complete circles as

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they are reflected in the water, while above the white steam puffs from a diminutive train, looking almost like a toy, it is so far away. In the foreground a park drive climbs Strawberry-hill in front of us, and beyond are the white tombs of Laurel-hill Cemetery, embosomed in foliage. Across, on the opposite bank, carriages looking like insects are slowly climbing up another park road towards the hill-top of Chamounix. Serenely quiet, excepting when the silence is broken by the distant roar of a passing railway train, this is a most lovely bit of wood and water scenery, giving almost at the threshold of a great city the idea of perfect rural beauty.

We descend Strawberry-hill to the road along the river's edge, above which are precipitous rocks, many of them hollowed out for the tombs of Laurel-hill. Passing under an arch of the railway bridge, which is a ponderous stone structure, one of the earliest built in the country, and constructed by English engineers sent out especially for the purpose, we see in the river the rocky ledges that made the "Falls" before the Fairmount dam backed the water so as to obliterate them. Patient youths now haunt these rocks with fish-lines and wait for "bites" they seldom get, as the river was long since fished out. We cross the stream and mount Chamounix-hill. Here is again a glorious view. The Reading Railroad is far beneath us, and its coal-marked roadway can be traced in black lines a long distance in both directions. The river flows placidly under its bridges, and opposite is the Falls village—a city in miniature, looking like little models of houses set in rows on the hillside, so that if one toppled it would knock down the whole town like so many rows of bricks. Laurel-hill, with its forest of snow-white monuments, stretches down the river until shut out by the bending stream. Above, the Schuylkill can be traced

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far away northward, past the densely-wooded ravine of the Wissahickon, over which a high railway bridge is thrown, while the tall chimneys of the Manayunk mills, another nest of busy factories, are closed in by a background of hazy hills. Fields, woods, and pretty villas make a pleasant border to this charming scene. This is Chamounix—modest in dimensions when compared with its Swiss namesake, but its old house is in a picturesque spot. Its latest owner, when the city's necessities forced an abandonment of the beautiful place, is said to have died of a broken heart. Then we move briskly over the hill-tops and table-land, and come out at George's-hill, on the western limits of the park. Here has been formed a grand concourse, with abundant flower-beds and shrubbery, and from it is had the most extended of all the park views, marred only by the absence of water scenery. A broad surface is laid out with the roads, statues, and ornaments of the park; and here, which was the site of the buildings of the Philadelphia Exposition 11 years ago, there is being made another concourse in memory of John Welsh, formerly American Minister to England, who was the head of that great enterprise. This is to be a grand driveway and promenade in front of the "Memorial building," which was the art gallery of the Exposition. Beyond this extensive plateau is spread out the distant city, with its subdued hum of industry, its myriad smokes from factory chimneys, and the low and faint border in the background made by the hazy land of Jersey, far across the Delaware. On the green fields and many foot-walks people are scattered about, creeping slowly over the surface like so many ants. To the right is the long, straight line of the Pennsylvania Rail-

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road, just beginning its westward route to the Mississippi Valley, while beyond it the town steadily grows, and before long will completely encircle this most elevated outlook of Fairmount Park.

We descend the hill towards the city, and on its slope pass the attractive Shropshire-looking house which England built for the Exposition and afterwards gave to Philadelphia. "St. George's House" has many admirers, and it was the means of introducing many new ideas in the way of quaint gables and chimneys and deep window-seats and cosy apartments in the straight-laced and rectangular house architecture that had prevailed in the Quaker city. Its furniture and adornments are heirlooms in many Philadelphia homes, and its hospitable memories are talked about to this day at Philadelphia firesides. It is now without furniture or tenant, but is one of the city sights always pointed out to visitors. We leave it behind, and cross the park again to the Schuylkill, coming out high above the river bank at Belmont. Here is another superb view down the beautiful Schuylkill valley, crossed by its pretty bridges at Girard-avenue, with the ponderous dome of the Cathedral and the tower of the new City-hall and its galaxy of attendant steeples beyond. We pass the Horticultural-hall, an elaborate conservatory and palm-house, also preserved as a memory of the Exposition, and cross the delicious ravines made by diminutive tributaries of the Schuylkill, known as the "Lover's Retreat" and the "Lansdowne Ravine," for this in former times was the Lansdowne Estate, owned in London, and the home of Joseph Bonaparte, the ex-King of Spain. Its acquirement twenty years ago began the formation of Fairmount Park. We descend by the riverside again, beneath the towering hill of Bel-

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mont, and here find a little stone cottage with overhanging roof, where tradition says that Tom Moore lived when in Philadelphia in 1804. His ballad beginning—

"I knew by the smoke that so gracefully curled
"Above the green elms, that a cottage was near,
"And I said, 'If there's peace to be found in the world,
"A heart that was humble might hope for it here,'"

is said to have been written at and about this cottage. Tom Moore's letters written at that time generally evinced dislike for much that he saw on his American journey, but he seems to have found better things in Philadelphia, and was delighted with the Quaker hospitality. He composed an ode to the Schuylkill, its natural beauties having impressed him, and in it gives evidence of his regard for the people. He says :—

"Alone by the Schuylkill a wanderer roved,
"And bright were its flowery banks to his eye;
"But far, very far, were the friends that he loved,
"And he gazed on its flowery banks with a sigh.
"The stranger is gone—but he will not forget,
"When at home he shall talk of the toil he has known,
"To tell with a sigh what endearments he met,
"As he stray'd by the wave of the Schuylkill alone!"

Tom Moore's harp is preserved in Philadelphia among the collection of attractive relics of many famous men adorning Mr. Childs' private office in the *Public Ledger* building.

The opposite view across the river from this modest little cottage is of the tombs that surmount the cliffs which border Laurel-hill Cemetery. This is the most noted burial place of Philadelphia, and embraces about 200 acres of the sloping banks of the river, it having been opened about 50 years ago. Its winding walks and terraced slopes and ravines give constantly varying landscapes, making it one of the

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most beautiful cemeteries in the world. In front, the river curves around like a bow, so that from a hundred points of outlook can be seen the placid waters far below, the green fields sloping up on the opposite bank in picturesque beauty, with views for miles away on either hand. Some of its mausoleums are of enormous cost and elaborate ornamentation, but, generally, the grandeur of the location eclipses the labours of the decorator. Standing on a jutting eminence, almost over the Schuylkill, is the Disston Mausoleum, where is entombed an English sawmaker, who came to Philadelphia without friends or money, and when he died was the head of the greatest saw-making establishment on the continent. At one place, as the river bends, the broad and rising terraces of tombs curve around like the banks of seats in a grand Roman amphitheatre. Here, beneath a modest tomb, lies General Meade, who commanded the Union armies at the battle of Gettysburg. In a plain, unmarked sepulchre down by the river bank, hewn out of the solid rock, is entombed the Arctic explorer who conducted the Grinnell expedition in search of Sir John Franklin, Dr. Elisha Kent Kane. A single shaft near by on a little eminence marks the grave of Charles Thomson, the Secretary of the Continental Congress that made the Declaration of Independence. Some of the graves are in most exquisite situations, and it is said of many that the spots were chosen by those who lie there. In this cemetery are buried Thomas Godfrey, the inventor of the mariner's quadrant, and General Hugh Mercer, who fell at the battle of Princeton, the remains of the latter having been removed to this spot in 1840, and the Scots' Society of St. Andrew having erected a monument in his memory. Commodore Isaac Hull, who com-

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manded the American frigate Constitution in the war of 1812 when she captured the British frigate Guerrière, is buried beneath a Roman altar tomb, surmounted by a finely-sculptured American eagle, which defends the flag with the most life-like demonstrations of energy in beak and talons. Thomas Buchanan Read, the poet-artist, is also interred at Laurel-hill. At the cemetery entrance, facing the gate, under an ornamental temple is the famous "Old Mortality" group, carved by Thom, and sent from Scotland to Philadelphia. The quaint old Scotchman reclines on a gravestone and pauses in his task of chipping out the half-effaced letters of the inscription, while the little pony patiently waits alongside him for his master and Sir Walter Scott, who sits on another tomb, to finish their discourse. Nothing can exceed the propriety of this for a cemetery entrance.

But the most peculiar charm of Philadelphia suburban scenery is the Wissahickon. This is a stream that rises in the hills north-west of the city, and, breaking through the rocky ridges, flows by tortuous course to the Schuylkill, a short distance above Laurel-hill. It is an Alpine gorge in miniature, with precipitous sides rising two to three hundred feet, and the winding road along the creek gives one of the most charming rides in the neighbourhood. Populous suburbs are on the higher ridges, but the ravine has been reserved and carefully protected, so that it has all its natural beauties unharmed. A high railway bridge is thrown across the gorge at its entrance, and, rounding a sharp, rocky corner, we are at once within the ravine, the stream nestling amid high forest-clad hills, and the winding course of the fissure giving pretty views. For several miles this attractive gorge can be followed up. Near

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it is the "Hermit's Pool," where John Kelpins, the eccentric "Hermit of the Wissahickon," two centuries ago dug his well and made his home, preached to his disciples the near approach of the millennium, and exhibited his magical "wisdom stone." Finally he cast this weird stone into the stream, and in 1704 he died, much to the relief of the Quaker brethren, who did not relish such mysterious alchemy in close proximity to the city of Penn. An old log cabin is near by, and a quaint bridge to give access to it is thrown across the creek, this region and its attendant wild scenery having long been a favourite subject for the artists' pencil. Above this, in a commanding position on the summit of the gorge, is a statue of William Penn, bearing the single word "Toleration." The gorge gradually emerges from its rocky confines at the foot of Chestnut-hill, where the sloping hill sides are filled with lovely villas, in one of the popular regions of suburban residence, their occupants having a magnificent outlook over the rich agricultural region of the Upper Wissahickon valley. During the warm midsummer season—and at times the torrid heats of the Quaker City rival those of India—there is always relief found on the wooded slopes and in the foliage-covered recesses of this Wissahickon gorge. Its charms of scenery, if not of legend, make the people proud of its fame, and its natural beauties have not been marred by art. There is throughout Philadelphia, both within the city and its attractive suburbs, strong evidence of the prevalence of a contentment that seems lacking in some other places. All classes of the population give signs of thrift and comfort, and the working people appear to be generally better provided, and evidently at less cost to themselves, than in most American cities. The Quaker spirit of carefulness and economy,

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implanted by William Penn's original colonists flourishes luxuriantly on the banks of the Delaware and Schuylkill.

XI.—THE SCHUYLKILL VALLEY.

In our American journeyings heretofore the visit has been confined to the lowlands near the Atlantic seaboard. The coast has a general trend from the north-east to the south-west, and back from it, towards the north-west, the land gradually rises, being formed in successive ridges, with intervening valleys, until it reaches the Alleghanies. The great ranges of this mountain chain run almost parallel to the coast for over a thousand miles. Their outposts are found about 40 miles north of New York and about 60 miles north and north-west from Philadelphia. They are noted mountains, not very high, but of remarkable construction, and said to be much older in geological upheaval than the Alps or the Andes. They are formed of series of parallel ridges, one beyond the other, and all following the same general course, like the successive waves of the sea. For long distances these ridges run in perfectly straight lines, and then, as one may curve around into a new direction, all the others curve with it. The intervening valleys are as remarkable in their parallelism as the ridges bounding them. From the seaboard to the mountains the ranges of hills are of the same general character but with less elevation, gentler slopes, and in most cases narrower and much more fertile valleys. The "South Mountain," an irregular and in some places broken-down ridge, is the outpost of the Alleghanies,

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while the great "Blue Ridge" is their eastern buttress. The former crosses the Delaware below the mouth of the Lehigh, and crosses the Schuylkill at Reading. The latter is about twenty miles beyond it, and is the famous Kittatinny range, named by the Indians, and meaning in their figurative language "the endless chain of hills." It stretches across the States, from the Catskills in New York as far south-west as Alabama, a distance of more than eight hundred miles—a veritable backbone for the Atlantic seaboard, its rounded, ridgy peaks, sometimes rising to a height of 2,500ft. It stands up like a great blue wall against the horizon, deeply notched where the rivers flow out, and is the eastern border for the mountain chain of numerous parallel ridges of varying heights and characteristics that extend in rows behind it for a width of a hundred miles or more. Within this chain is the vast mineral wealth that has done so much to make fortunes for the American people—the coals and iron, the ores and minerals, that are in exhaustless supply, and upon its surface grow forests of hemlock and pine, and harder woods, that are so extensively used in the seaboard cities. The great Atlantic coast rivers rise in the Alleghanies, break through the Kittatinny ridge, and flow down to the ocean. The Hudson River breaks through its outcrop, the Highlands, at West Point, just above New York. The Delaware forces a passage at the "Water-gap," one of the most remarkable American natural curiosities in scenery, about 80 miles north of Philadelphia. The Lehigh passes it at the Lehigh Gap, below Mauch Chunk; the Schuylkill rends it at Port Clinton, above Reading; the Susquehanna at Dauphin, above Harrisburg; and the Potomac at Harper's Ferry, where the passage is described by Jefferson as "one of

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the most stupendous scenes in nature." These rivers either rise among, or force their winding passages through, the various mountain ranges behind the great Blue Ridge, and also through the South Mountain and the successive parallel ranges of lower hills that are met on their way to the coast, so that all the streams have most picturesque valleys, whose natural beauties increase as they are ascended among hills rising higher and higher into a region becoming more and more wild and broken.

Within the valleys and among the mountains behind the Kittatinny are the anthracite "saddles" and "basins" of the Pennsylvania coal fields that yield so much revenue to British investors in American railways. The valleys of the Upper Schuylkill and Lehigh, of Shamokin and Mahanoy, and the Wyoming and Lackawanna Valleys of the Susquehanna, are the most prolific anthracite coal measures. Their product gives traffic to the Pennsylvania, Reading, Erie, Lehigh Valley, New Jersey Central, Lackawanna and Delaware, and Hudson Companies, whose securities are well known on the London Stock Exchange. With Philadelphia as a base we will make a brief excursion into this attractive region by starting up the Schuylkill Valley to the southern coal-field. Both the Pennsylvania and the Reading railroads have lines laid along the banks of this picturesque river, and a canal also aids in fetching the coals down to market. The railway leads us out through Fairmount Park and past the mills of the suburb of Manayunk, which gets its title from Manaiyunk, one of the Indian names of the Schuylkill. The Pennsylvania Schuylkill Valley line here crosses the river on a high bridge, giving a fine view over the populous and busy factory town. and for a long

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distance up and down the foliage-covered banks. The river winds around bend after bend as it passes through one ridge of hills after another, now laying its course for a long distance along the base of a ridge, and then making a sharp curve and passing through it. The populous valley is a constant succession of towns and villages, clustering around large and prosperous factories, all having "live" chimneys, for business is brisk, especially in the furnaces and forges which contribute so much to this hive of industry. There are rows of cotton and woollen factories, paper mills, and other works, some of enormous size, while operatives' houses and ornamental villas dot the hillsides. Frequently deep quarries are hollowed out that furnish vast amounts of building stone, while huge ice-houses are set up along the river banks stored with its winter harvest. Past village and mill, twisting in and out, around bend and promontory, the railway train runs, until it follows the stream in its course through the first great ridge above Philadelphia, and, making a grand sweep around from north to west, comes full upon the myriad chimneys of Coushohocken, a busy seat of the iron industry, and three miles above reaches Norristown, the largest settlement of the lower Schuylkill valley, about seventeen miles from Philadelphia, and a thriving manufacturing city, built upon a tract of land known originally as "John Bull's Farm." Three busy railways, with trains constantly passing, show the prolific traffic of this prosperous valley. Its names, too, are reminders of the mother country that has sent it such a large portion of its industrious population. One of the great iron mills near Manayunk is the Pencoyd Works, down by which flows a little brook that comes past

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Bala. This is known as the land of Merion, and behind it, opposite Norristown, is the Chester Valley, while opposite is the Plymouth Valley. Through this delightful region, underlaid with limestone and as rich in agriculture as it is in manufactures, the river runs between deep sloping banks, and makes grand curves from north to west and back to north again. In one of these semi-circular sweeps, about six miles above Norristown, it breaks through another towering ridge with grand views far up and down its beautiful valley, and just above receives the waters of its chief affluent, the Perkiomen creek coming in from the north-east.

In this magnificent location, on the western bank of the river, where a little creek flows down from among the hills bordering the Chester Valley, was the noted Valley Forge, the place of encampment of Washington's tattered and disheartened revolutionary army when his prospects were so dismal in the winter of 1777-8, one of the severest seasons ever known in America. The little farmhouse beside the deep and rugged hollow near the mouth of the creek, which was Washington's head-quarters, is carefully preserved as a relic of "those days that tried men's souls." We have run out of the region of limestone and marble and into that of red soils and sandstone, and thus approach another of the ridges that cross the country and sway the river's course as it breaks through their barriers. Nestling at the foot of the great Black Rock, which is the name of the ridge, is another busy factory town—Phœnixville—25 miles from Philadelphia, which has the largest iron and steel establishment of the Schuylkill Valley, the Phœnix Works stretched along the river bank, and occupying about 150 acres. The railways wind about and cross each other, the

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heading darting through a long tunnel under the rock, which projects so far out that the river's course is a perfect loop, and then emerging upon a bridge which carries it across the river to the eastern bank. The Pennsylvania, built on a higher level, first crosses the river and town, then going a short distance up the tributary, Pickering Valley, makes direct for the hill, pierces it with a tunnel, and then proceeds northward. All these cuttings disclose the old red sandstone of these eastern outposts of the Alleghanies, and the two railways having changed sides proceed up the river on their winding routes. We have now got fairly into the land of what are known as the "Pennsylvania Dutch"—a people of simple habits, primitive ways, and great industry, who inhabit a considerable portion of the interior of the "Keystone State" and have a dialect peculiarly their own. They are mainly farmers and handicraftsmen, and differ entirely in language and habits from the population of the coast. Their dialect is a mixture and corruption of Dutch, German, and English words, understood by neither of those races. They make up much of the population of the Schuylkill and Lehigh Valleys and adjacent regions, and their "sauerkraut" and "scrappel" have become staple foods in Pennsylvania. In the midst of their settlement is a village called Limerick, though it is doubtful if a Hibernian ever lived there. Above this is a stretch of good farms and level meadows, and the two railways both get together upon the same side of the river again, and pass through Pottstown, which has another nest of iron mills, all with active and glowing chimney-stacks. Off in the distance is seen the long range of the South Mountain, while isolated conical hills, covered with pines, stand about like sentinels guarding the

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entrance to the Alleghanies. The railways steadily approach the ridge in the north-west, and pass more iron mills at Birdsborough, down by the river side, the stream having narrowed to less than half its width at Philadelphia. Well-cultivated land and thrifty farmhouses cover the adjacent region, and the scenery, as the river winds and the railways with it, is charming. Still more iron furnaces are passed, with new stacks building, showing that business is prospering, and we run in among the hills with railways, canal, and river all hugging closely side by side in the county of Berks, which is regarded as the especial home of the "Pennsylvania Dutch," and ultimately to its shire town, the attractive city of Reading.

The towering cliffs of the South Mountain and its attendant ridges come closely in to the Schuylkill, and thus the approach to Reading is made through grand scenery, the route having to be hewn out along the edges of a deep and winding gorge among the high forest-covered hills. There are frequent dams, as the slack-water navigation for the canal requires them, and the twisting river gives magnificent views as it makes its long reaches. The Reading Railroad line runs along the base of a huge mountain until it gets among the buildings of the town, while the Pennsylvania line crosses and re-crosses the narrow river on high and strong iron bridges to get a route of entrance. More iron establishments and factories are dotted about, and, the narrower portion of the gorge being passed, the city spreads out upon a broad and comparatively level plateau, through which the river flows in crooked course, having frequent bridges thrown across it. Factory smoke overhangs the place, and puffing steam jets on all sides show its busy industries. Reading is the most populous city of the Schuylkill Valley, and

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has about 70,000 people, whose homes are among the South Mountain gorges, 58 miles north-west of Philadelphia. The diminutive Schuylkill breaks its passage through this lofty range, with Penn's Mount on one side and the Neversink Mountain on the other, both of them in view from the high hills bordering northern Philadelphia, 40 miles away. There is enough flat land between and behind the mountains for the construction of this attractive and expanding town, which gives its name to the Philadelphia and Reading Railroad—an American colossal financial institution, whose woes of bankruptcy and throes of reconstruction, now happily ending, have for several years occupied a large share of the attention of the world of finance. The shops and industrial establishments connected with this railway's extensive system contribute much to the prosperity of Reading, and its aggregation of iron mills of all kinds and sizes work up the ores that are dug out of Penn's Mount, through the aid of the coals brought from mines only a few miles away. A fertile agricultural region surrounds Reading, in the various mountain valleys, and the Dutch in large numbers come into town to trade. The townspeople are hospitable, and their comfortable homes on the clean and well-kept streets testify to the contentment as also to the wealth of the city. The tree-clad mountains rise precipitously on both sides, and the people climb up to the White Spot, elevated a thousand feet above the river, on Penn's Mount, to enjoy the glorious view. All day long the railway trains laden with coal roll through the town from the anthracite district just beyond down to their market at Philadelphia or New York. The old red sandstone, hewn out of the mountain sides, furnishes the ornamental columns

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for the Court-house portico, and has built the castellated gaol, while the people, when they die, usually of a ripe old age, are taken into the red freestone Gothic chapel, and thence carried through the red sandstone gateway in the suburbs, leading to the Charles Evans Cemetery, built by the gift of a prominent townsman.

The Reading Railroad has a spacious station in Reading, constructed upon a novel plan and reflecting credit upon its designer. It is a triangle with an open garden plot and lawn in the centre, where a fountain plashes. Each of the three sides is concave, and a railway starts off from each angle, the rails of all connecting with each other around the concave sides. The line from Philadelphia comes in at one angle, and then dividing goes off northward and westward. The Western line runs through the sandstone rocks and among the iron mills, and suddenly out upon a high bridge thrown in a beautiful situation across the Schuylkill, and proceeds far away through the Lebanon Valley to Harrisburg at the Susquehanna river. This rich limestone valley between the South Mountain and the Kittatinny is a fine farming region, and also a wealthy seat of the iron industry, its "Cornwall ore banks" being one of the richest deposits in America. The Reading Company sends its East Pennsylvania Railroad eastward to Allantown in the Lehigh Valley, and thence to New York, while its main line continues further up the Schuylkill Valley. The Pennsylvania Company's line at Reading goes closely along the river bank, and when out of the town the two railways and the river are laid almost north, amid picturesque scenery, and approach the Blue Ridge about eighteen miles away. The long range of mountains ahead stands up gray in the distance,

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and gradually turns to blue as the train swiftly approaches. It stretches grandly across the horizon, with the little notch cut down into it, where the Schuylkill river breaks through at Port Clinton Gap. The surface of the country in most places is too hilly and broken for much success at agriculture as we near the portals of the anthracite coal region, although there are occasional stretches of comparatively level land, where there are evidences of good farming. Approaching the blue wall of the Kittatinny, its roughened, yet gracefully-rounded, tops, with the seamed and scarred hillsides, are plainly seen. Soon the spurs close in around us, and the railways, canal and river hugging closely together, enter the Gap. The notched and winding opening in the mountain range seems cut out, as if by human hands, to give a passage, and the narrow stream curves around the long protruding spurs that run down from the steep sides of the crooked pass, while the broad range stretches far away on either side. With brisk movement the current dashes over its bed of boulders, the more placid canal keeping closely alongside, while the two railways have to curve out their route along the cliffs and bore tunnels through their spurs. This winding and romantic pass is about three miles long through the Blue Ridge, from Hamburg below, to Port Clinton above the Gap. The newer line of the Pennsylvania Railway is laid high up on the hillside, and thus finely overlooks the gorge. To the northward of its narrower portion there is a maze of railway lines, canal basins, and coal chutes at Port Clinton, where the Reading Company unites various lines that converge from different parts of the coal district. The Little Schuylkill River here falls into the larger stream, and a branch

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railway follows it northw ard to Tamaqua, while the main line goes westward to Pottsville. The summit of the Kittatinny range is the dividing line between the counties of Berks and Schuylkill and the boundary of the coalfield.

Port Clinton, though not much of a town, is a busy place of coal shipment. It stands on the edge of the southern anthracite basin, and the country beyond is wild and broken. The next great ridge that extends across the country is the Broad Mountain beyond Pottsville, though between it and the Kittatinny there are several smaller ridges, among them Sharp Mountain. At first the Schuylkill river and its attendant railways closely follow the northern bases of the Kittatinny, winding about its spurs, but afterwards they begin to diverge towards Sharp Mountain on the other side of the valley. The view thus broadens, and there are patches of rich and level lands in the bottoms, where there are good farms. The buildings are substantial, and the Dutch farmers believe in painting them red, this being their favourite colour. The narrow, crooked Schuylkill has its waters turned black from the masses of culm and refuse from the coal-pits. Then we come to Schuylkill Haven, 90 miles from Philadelphia, where the Reading Company makes up its coal trains, and branch lines go out to the pits in various directions. This is also the head of the canal navigation, and there are lines of chutes and pockets for loading the barges, with colliers' villages dotted about in nooks among the hills. The river and railways pass into the gap alongside of Sharp Mountain, the stream narrowed to a black and repulsive-looking brook. Compressed into another winding pass the lines suddenly run into Pottsville among the hills, skirting a cluster of active iron mills

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upon entering the town. Pottsville has a picturesque situation, but a very uneven surface, being confined within a deep valley among the hills, with its buildings spreading up on their steep sides. It has been of more importance than now, for its situation in the centre of the southern coalfield made it the chief depôt of trade when the many collieries around it were managed by individual owners, who came into town to transact their business. It has about 20,000 people, ten banks, and many large shops, but much of its trade has been diverted by changed methods in the coal trade since the great railways have absorbed most of the collieries, and thus transferred the regulation of their business from Pottsville to Philadelphia. It is the shire town of Schuylkill county, and from it railways go out in various directions to the coal-pits. In fact, the whole country around, and particularly that north of Pottsville, is a perfect network of railways, leading to hundreds of pits and "breakers," for all of these anthracite mines have to set up complex machinery to break their coals into sizes fit for use. It is not unusual for this region to send 10,000,000 tons to market in a year.

Northward of the Schuylkill or southern coal region, and beyond the Broad Mountain is the "Middle Coal Basin," extending westward from Schuylkill into Columbia and Northumberland counties, and reaching on that side almost to the Susquehanna river. This basin includes the Mahanoy and Shamokin Valleys. Eastward of Schuylkill county, both these basins stretch into the Lehigh region, appearing at Mauch Chunk and above, and also in the Harleton district north-west of the Lehigh. The Mauch Chunk region, known as Carbon county, was the place of the earliest discovery of anthracite in the States. It is note-

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worthy that as the coal measures extend eastward they harden, while to the westward they soften. The hardest coals consequently come from the Lehigh region, and they gradually soften as they are dug out to the westward, until on the other side of the main range of the Alleghenies they become soft bituminous, and still further westward their constituents appear both as petroleum and as gases. Between the Schuylkill and the Lehigh regions, there are several connecting railways built and new ones are constructing. One railway from Pottsville to the coal-pits is a type of all, and, to give an idea of the region, we will go northward up a steep grade to cross over the Broad Mountain into the Mahanoy district. The route soon leads into the heart of the Schuylkill region, filled with lateral railroads leading from the pits to the main lines of the various companies that carry the product to market. The land is full of little mining villages, but has little else. It is a rough country with bleak and forbidding hills, almost denuded of timber by the fires that have run through the forests, leaving the scarred trunks of the trees standing up as gaunt sentinels. Vast black heaps of culm and refuse, cast out from the mines, are poured down the hillsides, some of them the accumulations of a half century, making miniature mountains. The entire geological formation is changed into the lighter coloured rocks which envelope the coal measures. Thus we pass St. Clair, with its coal breakers at work, grinding up the fuel which is poured with thundering noise into the cars beneath the chutes below. The train fills up with the Pennsylvania Dutch as it halts at the little colliery stations, and their curious dialect is briskly jabbered all around us. They are not much at mining, however, for the English

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and Welsh, with some Irish, do most of the work in the pits. The country is terribly rough and unattractive, there being no attempt because no show is given for farming; and all the streams as they pour over the boulders in their deeply-worn valleys are blackened with the coal refuse, their waters being unfit for use. The surface is strewn with rocks and *débris*, and the railways twist about among them to make connexions with the numerous pits.

Having climbed up the grade, we cross the top of Broad Mountain, with collieries all about us. Some of them, after a large investment, have been abandoned, as they ceased to pay owing to faults in the veins. Ventilating shafts are working their fans in this desolate region, and long lines of depressed surface show where the roof of a worked-out vein has fallen down. As the broad top of this extensive mountain is crossed, long views are got over the subsidiary valleys, with their coal heaps and breakers and shafthouses seen for miles away. The whole country is a vast coal-pit, the veins underlying the entire surface, and being tapped wherever feasible. The northern slope of the mountain gives a fine outlook upon the Mahanoy Valley, and the Reading Company has inclined planes down into it to facilitate the moving of coals, this being a prolific region. Four railways run their lines in, so that there is brisk competition, and as we go further northward the lines of the Lehigh companies appear to divide traffic with the Reading. There are new collieries just opening as the result of these recent movements, which are reinforced by an industrious competition from the Pennsylvania Company. Finally, the Lehigh lines, as we go into the Mahanoy district, appear to have the field to themselves, as we have passed beyond the Reading

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Company's domain. We finally get down into a valley, which takes us eastward towards the Lehigh River. The region is still desolate and rough beyond description, being without inhabitants, excepting those connected with the railways or the mines. Our railway joins other lines and runs down the valley of Black Creek, saturated with coal dirt—a crooked and pretty gorge, with precipitous sides, which leads out to the Lehigh River. The rushing waters of the creek soon fall into that river, also a narrow, winding stream between high hills, with railroads on both banks and a canal. The place of junction is Penn Haven, and near by is one of the strangest towns in the States—the Lehigh coal shipping port of Mauch Chunk—the head-quarters of the Lehigh Valley Railroad and the Lehigh Navigation Company, which are known familiarly as "the two Lehighs."

XII.—THE LEHIGH AND WYOMING VALLEYS.

Seventy miles westward from New York and about 50 miles northward from Philadelphia are the "Forks of the Delaware." To this place, the confluence of the Delaware and the Lehigh rivers, came the chiefs of the Lenni Lenapes to treat with William Penn's successors, and a town was founded 135 years ago. John Penn was then a newly-married man, and his bride, the daughter of Lord Pomfret, had been wooed and won at her father's seat of Easton, in Northamptonshire. So Penn instructed his agents that the town should be called Easton and the county Northampton, at the junction of the Delaware with the pretty

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stream the Indians called the Lecha, which has since become the Lehigh. It did not grow much until the Lehigh coals sought this route to a market, but it is now a thriving city of 20,000 people, climbing the hillsides between the Lehigh and the Bushkill and commanding the gateway to this famous valley. Strong railway bridges carry the Lehigh Valley and New Jersey Central Railroads across the Delaware to pass through Easton and up the valley, and other railways and canals lead from it down the Delaware river. Coal trains roll over the bridges and water flows below, while stone, iron, and coals are in profusion around, as you look across from the New Jersey shore at the smooth current of the Lehigh pouring down an aproned dam into the Delaware, with the town behind, built in ridges upon the level land and rising in terraces upon the adjacent hills. Easton is notably a hillside town. South of the Lehigh the spurs of the South Mountain come out to the Delaware river bank, and some distance below Easton they make the grand escarpment of the "Nockamixon Rocks," their red sandstone cliffs rising almost perpendicularly 300ft. high, with here and there a ravine of romantic wildness, where they have been rent asunder. At their foot the patient mules draw coal barges along a canal. The buildings of Easton run up all the adjacent hillsides, and in a magnificent position on a high bluff north of the Bushkill is Lafayette College, munificently endowed by one of the coal princes of the valley, Ario Pardee. Situated at the entrance to a vast mineral region, this has been made largely a school of the mine and is devoted to that branch of scientific research. its chief building,

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Pardee-hall, built of brownstone, being the finest for its purposes in the country. Easton is surrounded by iron mills, the adjacent hills being full of ores, and, in fact, progress up the valley passes a succession of most elaborate iron establishments, some of them having the largest plants in the country. For 12 miles the railways hug the river and are laid along the edges of the hills, past furnace, forge, and rolling mill, and soon they bring us to Bethlehem.

The attractive stream flows along the bottom of the valley, with vast aggregations of ironworks spread upon its southern bank. Here also are the extensive establishments of the Lehigh Zinc Company, zinc being a prominent product. Over on the northern side is the original settlement of the Moravians, an odd old town, built mostly of brick, with a slate roof on every house, founded in 1740 by the refugee followers of John Huss; and Count Zinzendorf, their leader, came here to preach in 1741. This was the earliest and most important settlement of the brotherhood in America, and for a century it remained a close denominational town. Many are the relics shown of these careful people, who dwelt in a sort of Communism, maintaining their distinctive principles, such as the "Family House," the separation of the sexes, and the exclusion of an additional trader in any branch of business, unless the amount of traffic warranted more than one. During the American Revolution the Moravian "Single Sisters" embroidered a banner and presented it to Count Pulaski for having protected the town. Many of their original buildings still exist; the Widows' and Sisters' Houses, the Congregation House, and the Chapel are preserved with their broad oak stairways, stout furniture, diminutive windows, and low ceilings, their flagged pavements, gables.

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and odd roofs contrasting strangely with the more pretentious modern buildings around them. This quaint town in its modern setting also has its college, the Lehigh University standing on a commanding spur of the adjacent mountain, and founded by another of the Lehigh coal princes, Asa Packer, who was the father of the Lehigh Valley Railroad and the pioneer of the coal trade of the district. Taking his railway, laid upon the southern bank of the river, we are quickly led above Bethlehem into one of the greatest seats of the iron manufacture in the world. The road winds along the crooked shores of this very tortuous river, which thinks nothing of making sudden right-angled twists among the steep bordering cliffs, passing plenty of iron mills with pig-iron in profusion and mountains of slag, running among rolling-mills and blast-furnaces, and thus comes to Allentown, at a depression in the hills, where the Jordan creek flows in with rapid current, and has across it a comfortable-looking town of capacious houses, embowered among ample shade trees, its people having coined money out of the iron trade. Beyond are more ironworks and slag heaps, and amid a desert of lava the railway passes Catasauqua, or the "Thirsty Land," where the iron furnaces are on a gigantic scale, with their mountains of slag running off to the westward like miniature ridges of the Alleghany range. Everything is working to the utmost capacity, and the more prosperity there is the bigger grow the slag heaps. Then we pass the enormous plant of the "Thomas Ironworks" at Hokendaqua, whose owners control the Lehigh Valley prices; and then there are still more mills and more refuse at Coplay, after which for a little way the picturesque stream is free from iron mills and slag.

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We are again approaching the Kittatinny range, the buttress of the Alleghanies; and the steep forest-clad hills now closely border the crooked Lehigh. The woods thicken, and the railways have their routes hewn out of the laminated rocks along the edge of the water, where the spurs of the mountains closely press the river. In swinging around the sharp curves there are magnificent views given of the pass ahead at the Lehigh Gap. Occasionally there is a corn patch on a level spot, but agriculture gets very little show. The Gap looks like a notch with sloping sides cut down in the mountain, with a distant ridge closing the view seen through the opening, and the cloud-shadows move slowly over the dark green foliage covering the high hills to their tops. The rocks are masses of slate, and some of the protruding cliffs are deeply riven to give the railway a ledge to rest upon. We halt a moment at Slatington, where a brook makes a depression in the hills, and up its valley and alongside the railway are extensive slate quarries. Slates are being laden at the station, and masses of broken ones lie in profusion about. These are the most extensive slate deposits known, and the back country is being gridironed by railways to get at them. The output is enormous, and it is one of the most valuable industries in the States. Beyond Slatington the great mountain ridge stretches across our path like a wall, and we run directly towards it. The river flows over a slaty bed drawn in almost straight ridges directly across, for here the Gap has been broken largely through the deposits of slates. Suddenly we curve around into the notch and go directly through, with railways, river, and canal towpath compressed closely together between the towering cliffs that stand up almost perpendicularly alongside us. The scenery is grand, for the Gap is

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narrow and its sides precipitous, and, then emerging, the rounded peaks of the range stretch far away to the north-east, as we run out in a somewhat broader valley on the northern side, in Carbon county. A pretty villa is perched on a round-topped peak on the opposite bank, and an ancient road ascends the declivity, having upon it an old-time wayside inn—the "Relay House"—for this was in former days the stage-route to the far northward. The river passes more romantic, though less imposing, notches, giving magnificent scenery, and then a renewal of slag-heaps spoils some of the romance at the iron mills of Parryville, whose chimneys are set in so deeply among the enormous hills that their overhanging smokes can scarcely get out. A pork-packing establishment varies the monotony at Lehighton, and at Weissport is the "Emery Wheel Company," which makes its useful wheels of Turkish emery and American corundum. Then the train passes the extensive car-yards and shops of the Lehigh Valley Railroad at Packerton, named in honour of Asa Packer, and the long coal-weighing scale, where the loaded coal-cars are weighed while in motion. Above this the projecting spurs of Broad Mountain begin to compress the river and make more fine scenery. The first result of this is that the other railway squeezed off the northern bank has to cross to our side and is carried over our heads. The two lines are laid a short distance side by side, but the hills will not permit this very long, for soon there is another compression by a big cliff and our Lehigh Valley line suddenly darts across an iron bridge to the northern bank, the two roads thus changing sides. Then we run again through a very narrow space with mountains hemming us in and rising hundreds of feet above as we enter the gorge in the Broad

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Mountain range. Curving sharply around from the west to the north and then to the east we halt at a station, 48 miles from Easton, and across the river, apparently leaning against the mountain wall behind it, is the town of Mauch Chunk.

This is the oddest looking town in America. It is set upon a rocky shelf alongside the river and has but two streets. One runs along the front of the shelf, and the other, at right angles, extends back up a gulch, cleft into the mountain, down which comes a torrent, generally in a culvert built under the street. Most things seem set on end; for the steep hillsides leave little room for the houses, and the man whose front door opens upon the street generally goes out of the third story into his backyard, while the piggery at the end of the garden may be 50ft. higher than his roof. The mountains curve around like a vast basin with the town on the edge, hanging in a little fissure, behind which is Mount Pisgah, rising to a great elevation with its chimney-topped inclined plane. A few paces' walk from the station causes you to halt in amazement at the novel sight—river, railways, canal, and the single street fronting the town, all packed together into the narrow, curving gorge which bends sharply around Bear Mountain, almost under which you have alighted from the train. The trees hang by slender tenure to the steep rocks; the roads are carved on ledges up the mountain side; everything is chocolate coloured by the red sandstone, and, looking down the narrow valley, its sharp bend quickly takes it out of view, while, looking the other way, the background is closed by the distant sides of Broad Mountain. Crossing over to the town and facing about, the view is of a rushing torrent in the river which pours over the canal dam, and has its roar-

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ing aided by the vigorous blowing of steam from numerous locomotives. Beyond is a grand panorama, the river coming down through its narrow valley from the eastward and making a short sweep around the conical-topped Bear Mountain, or, in the original Indian dialect, the "Mauch Chunk," in front. Around this curious sugar-loaf hill everything curves, the rails, canal, and river forming so many arcs of circles, along which snake-like trains of coal cars move and canal barges are drawn by deliberate-paced mules. Bear Mountain rises 700ft. high, and everything about it is devoted to coals. At the upper end of the single front street a high hill cuts the highway off, and on its verge, closing the view, is a granite shaft erected for a soldiers' monument. Attractive villas and a pretty church adorn the neighbouring hill sides, and here starts the second street, zigzagging far up the gulch into the mountain, with the torrent rushing beneath the pavement and houses on either hand, having the steep banks behind them walled in and terraced to prevent miniature avalanches. On the hilltop is the cemetery. When the development of the coal trade made the town outgrow the shelf and gulch they hunted out a flat place about 250ft. up this hill and built Upper Mauch Chunk, and then sought a later outlet on a plain by the riverside further up the valley and called it East Mauch Chunk. Altogether, they have managed to provide homes for a population of about 10,000 people, all, in some way or other, depending upon coals. Mauch Chunk's most famous townsman was Asa Packer. He was a Lehigh Canal boatman, who in the early history of the coal trade developed a remarkable aptitude for transportation management, and finally became the projector and builder of the Lehigh Valley Railroad. His

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name is intimately associated with all the enterprises of the Lehigh region, for he reaped an enormous fortune, and with it munificently endowed the Lehigh University, and also provided in other ways for his neighbours, while his estate, held as a trust, still controls the railway over which he presided for so many years. On the steep hillside, at the end of the street, behind the soldiers' monument, is seen his former home, while far above and almost over the top of his house is the cemetery, on the summit of the hill, wherein lie his remains. His railway trains roll out a steady requiem below.

Climbing to the hilltop and looking down over the narrow little town and the river and railroads like so many rings rounding Bear Mountain, it can be realized what a strange place Mauch Chunk is, and how well the people have utilized the scanty space to get it in between hills and river. Behind us rises Mount Pisgah, with its inclined plane railway, the famous "Switchback," which was the earliest method by railway of getting the coals out to market. The hard anthracite was first discovered nearly a century ago about nine miles north-west of Mauch Chunk by a hunter, at Summit-hill, on Sharp Mountain. The earliest method of transportation was by the Lehigh Canal, the coals being brought out to the river in wagons, and in 1820, as Asa Packer used to tell it, 385 tons were sent to Philadelphia and "completely choked the market." But the trade afterwards grew at an amazing rate, these veins proving most prolific, their thickness in some places being 53ft., and producing the hardest anthracite known. The "Switchback" is a gravity railway, built in 1827, to bring the coals out from the mines to the river. The loaded cars were run nine miles down a grade of about 90ft. to the

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mile to Upper Mauch Chunk, where they emptied the coals into chutes that delivered them in canal barges in the river below. To get the empty cars back they were hauled up the inclined plane on Mount Pisgah, then run by gravity six miles to the foot of Mount Jefferson, hauled up a second inclined plane, and then run three miles further down the slope to Summit-hill. This cheap and ingenious transit, after serving its purpose for many years, was superseded by another railway, and the "Switchback" has now become an excursion route for tourists. They go there by thousands to get hauled up the planes and then slide down hill, the exhilarating journey being at times given a spice of danger by threatened collision with a stray cow. Mount Pisgah rises 900ft. above Mauch Chunk and 1,500ft. above the ocean level, while Mount Jefferson is 1,660ft. high. These elevated perches give grand views over range upon range of gray-topped mountains for a circuit of fifty miles or more. The mining town of Summit-hill is the chief one of the Lehigh region, having about 7,000 population, most of whom work the coalpits of Sharp Mountain and the Panther Creek Valley, sending their coals out through a tunnel to the Lehigh above Mauch Chunk. There is a burning mine at this place, which has been smouldering over 50 years, and has consumed so much of the underlying coal measures that the baked and sunken ground on the surface looks like the crater of a volcano. But Summit-hill is not attractive, and its chief feature seems to be the enormous masses of slate and refuse that have been cast out of the pits.

Above the curious gorge and town of Mauch Chunk the Lehigh Valley Railroad follows the river for many miles, a winding, narrow stream,

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encompassed by enormous hills, through which its deep and crooked valley is carved, evidently by successive convulsions of nature. Gorge after gorge is passed, the railways running on both banks. A canal had been originally there, but it is not used above East Mauch Chunk, having been destroyed by a freshet some years ago. The ruined dams and canal locks over which the amber-coloured waters pour show how extensive the work once was. The country is rough and strewn with boulders and the river filled with them. Some of the bends are complete semi-circles, river and railways laid in concentric rings around the bases of bold promontories, a marvel of crookedness and good engineering. Branch lines come in from the coal measures adjacent in the Mahanoy Valley and Hazelton region, but we soon run beyond them into the heart of the Alleghanies, the stratified rocks with their saddles and dips, exposed by the river, giving excellent opportunity for the study of geology. We pass the Broad Mountain, and get into a different region, where the hills are not so high, and have been almost denuded of timber by the ruthless wood-choppers of a past generation. The Upper Lehigh was formerly a prolific timber-producing region, but it has seen its best days, the wasteful American habit of cutting off all the trees having left no signs of forest beyond some scrubby aftergrowth. In this section between the Broad Mountain and the long range next north-west, the floor of the intervening valley is about 900ft. elevation above tide-water. The stream is narrow and shows some timber rafts, with extensive dykes and booms for catching the logs, but these are chiefly the relics of a past industry falling into decay. White Haven, a village of wooden houses set upon the hillside, was formerly the centre of a brisk timber trade. and

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here the railway and river diverge, after having kept such close company for about 75 miles from the Forks of the Delaware. The Lehigh comes from the north-east from its sources about 20 miles away in the Nescopec Mountain. The railway turns to the north-west to climb that mountain, for no friendly stream has here carved a gorge to let the locomotive through. Up a winding grade the engine labours, over the bleak moors that make the mountain side, the brownstone strata cropping out, but the country almost without habitation, and finally the summit is crossed at an elevation of 1,800ft., which marks the height of land between the affluents of the Delaware and the Susquehanna. The road then skirts along the brow of the glen formed by the headwaters of Nescopec Creek, whose valley leads off to the westward. A far outlook is given over the dark and hazy mountain-tops, and here in a commanding position the railway has built its "Glen Summit Hotel," where the train halts, in a position that exhibits a landscape back over the Hazelton region and the long slopes of Broad Mountain; while westward, across the Nescopec Valley, are seen far away the higher tops of the main range of the Alleghanies, just rising into view beyond the Susquehanna. Thus the summit of one mountain ridge shows the two long parallel ridges that border it on either side.

The stout and contented train hands, nearly all of them of the sturdy "Pennsylvania Dutch" race, who look healthy and hearty in this bracing mountain region, are caring for their coaches, while the passengers enjoy a good meal in the hotel, which is one of the most popular resorts in the Alleghanies, and then the journey is resumed. We run swiftly down grade on a winding line until it comes out at the head of a deep gorge, down which is

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laid an abandoned inclined plane railway. The train moves out along the upper edge of this gorge to the verge of the Nescopec Mountain, and the roadway, turning to the left, there bursts upon the sight the finest view in the "Keystone State," the fair Wyoming Valley, with its gorgeous beauties of cities, villages, farms, and glinting river, seen from an elevation of 1,200ft. Such a view is worth crossing the ocean to see. The Susquehanna river can be traced for nearly 20 miles through the long and trough-like valley from the northern end, where it breaks through the mountain range to get into the valley, at Campbell's Ledge, down south-westwardly to where the river passes out through the narrow gorge of Nanticoke Gap. On one side the Nescopec and Moosie range enclose the valley and on the other the Shawnee Mountain, also called the North Mountain, with the long and higher ridge of the Alleghany main range behind it. To the north-east this beautiful valley is prolonged by the Lackawanna river valley, which flows down to the Susquehanna and joins it at Pittston just after the latter stream breaks through the mountain ridge to get in. This gorgeous vale, with the richest agriculture on its surface, and underlaid by the most valuable of all the anthracite coal measures, is a succession of towns and villages, with intervening coal mines, the land marked over by busy railways with their little puffing engines; and all is spread out at our feet as the train quickly emerges from the gorge, with a suddenness that is almost startling. It is like a view from a balloon. There is the village of Nanticoke, then Plymouth, then the spreading city of Wilkesbarré, the chief town of the valley; and far beyond, as the river is traced at its turning point, are the foliage-hidden houses of Pittston. Between them all are clusters

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of villages and black coal heaps from the mines while the whole surface is cut up into the green and brown fields of the rich farms of the valley, across which the long streaks of railways stretch. The train moves all too quickly to permit one to drink in this grand scene, as it slides down the grade of nearly a hundred feet to the mile along the face of the mountain side to get into the valley, first winding about among the spurs far southward and then coming back northward to Wilkesbarré to obtain distance enough to make the descent. The old Indian trails are crossed which the red men followed in the earlier days, before the poet Campbell, whose name is embalmed in its finest mountain peak of "Campbell's Ledge," had occasion to write of "Gertrude of Wyoming."

The name of the Susquehanna means the "broad and shallow river," the Indians thus designating this great waterway which takes so much of the drainage of the Alleghanies, yet is so filled with rocks and rapids as to defy all attempts at satisfactory navigation, excepting by timber rafts and canal barges. It flows 400 miles from Otsego Lake, in New York, receiving many large tributaries, and at its mouth forms Chesapeake Bay. The Indians named the rich and fertile valley, which spreads for a width of three or four miles between the high mountain ridges, the "large plains," or the "Maughwauwama," which, after undergoing various changes, was finally pleasantly corrupted into the Wyoming. Its lower part makes Luzerne county and its upper portion Lackawanna county. This valley was bought from the "Six Nations" of Indians (the Iroquois) by an association of settlers from Connecticut, and, after varying experiences, the war of the American Revolution found a thriving settlement of about 2,000 people on the bank of the river above Wilkes-

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barré's present site. In June, 1778, during that war, the settlement was attacked by a force of British troops and Mohawk Indians, and the "Wyoming Massacre" followed on July 3, the British officers being unable to restrain the atrocities of the savages. "Queen Esther's Rock" is shown, where a half-breed woman, to avenge the death of her son, tomahawked 14 helpless prisoners. Most of the survivors fled from the region, and did not return until long after the war, when the infant settlement was renewed by the foundation of the present thriving city, just below the scene of the massacre, which was gratefully named after two British defenders of colonial rights—Wilkes-Barré. While these memories are recalled, the train swiftly glides down the steep grade, the reaches of the distant river glint and sparkle in the sunlight, flowing through the centre of the broad plain dotted all over with white houses like little specks, and the clustering villages that congregate near the black coal heaps at the outcrops of the pits. We go away south in getting down the hill almost to Nanticoke, and then, turning back, pass in view of Plymouth, both having been the scenes of terrible mining disasters. There is better timber on the hillsides than was found back along the Lehigh, and after running among forests and coal and culm heaps, with long lines of laden coal cars, and passing squads of colliers tramping about with their lamps on their hats, we finally get down into the bottom of the valley. The enormous coal output and large population of this thriving region have made it a tempting goal for the railways, although the construction of roadways over the mountains to get in has been very costly. The "two Lehighs" both run lines into it, and also the "two Delawares"—the Delaware and Hudson and the Delaware, Lackawanna,

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and Western companies. The latter come in from the Lackawanna Valley to the northward, while the former cross the mountains from the south-east. The Erie Railway has a branch leading in from the north-east, while the Pennsylvania Railroad has made a new route from the south through Nanticoke Gap. Thus six great railways compete for the rich traffic of the great coal basins underlying this magnificent Wyoming Valley.

Wilkesbarré, which has about 35,000 population, covers a broad surface on the east bank of the Susquehanna, its suburbs stretching far on either hand and up on the spurs of the mountains. Its Court-house-square, surrounded by fine shops, banks, and showing every evidence of business, testifies with the neighbouring streets to the wealth and industry of the population. Row after row of fine houses, and particularly the grand esplanade of palaces fronting the Susquehanna, show how the people have dug riches out of the bowels of the earth. There are many residences here that equal almost the finest upon Fifth-avenue in New York. Yet every point of outlook, although the scenery in all directions is grand, is over a dismal coal-breaker, or long black culm-heap, or at lines of coal-laden railway cars, so that it must become a trifle monotonous to the wealthy to be thus constantly reminded of how they got rich. The Lehigh Valley Railroad does a brisk trade at its capacious and pretty station, for the restless Americans like to spend their money in travelling, and the enterprising railway managers are always prepared to give them the opportunity. This railway follows the Susquehanna nearly a hundred miles northward into New York. It passes from Wilkesbarré through a succession of valleys and collieries to

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Pittston, nine miles above, the river meandering over a comparatively flat valley of rich farms, completely underlaid with coal seams, the galleries being run long distances from the shafts, and a few of them completely under the river to the western side of the valley. Some of these mines have been worked for 30 years, so that the size of the mountains of refuse they cast out has become something portentous. At Pittston, the two streams unite, the narrow Lackawanna flowing into the broader Susquehanna, the latter coming from the north-west through the notch cut down in the mountain range. This is the most charming of the mountain views from the floor of the valley, the broad ledge far up the side of the grand peak upon the northern verge of the notch having indicated the name of Campbell's Ledge. The railway disappears through the narrow pass to continue its northern journey, going almost beneath the towering peak which has been consecrated to the memory of the poet. Down upon the riverside, about half-way between Wilkesbarré and Pittston, is a plain granite shaft, near the village of Wyoming, which marks the scene of the massacre and the burial-place of the collected bones of the slaughtered. It stands beside the swift-flowing river, and for a noble background rises the great North Mountain range.

XIII.—THE VALLEY OF THE UPPER DELAWARE.

The great Kittatinny mountain range, stretching north-east from the Lehigh Gap, is pierced by the Delaware river, 29 miles away. The two streams that form this important river rise in the

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Catskills, and for more than 200 miles they flow down along the western side of the Kittatinny, seeking an outlet to the sea, uniting to form the Delaware at the north-east corner of the Keystone State. For much of this distance the Erie Railway uses the Delaware valley in its route from New York to the West. Finally the river turns and goes through the "Water Gap" at a distance of about 80 miles in a straight line north from Philadelphia. On this great range between the Lehigh and the Delaware there are five other depressions, the chief being the "Wind Gap," 11 miles from the Delaware. This notch is not so low as the Water Gap, and the Indians appropriately described them by giving names indicating that the wind went through one gap and the water went through the other. To this day the disappointed farmers of the neighbourhood, when looking for rain in times of summer drouth, berate the clouds that slip by them and are blown away through the Wind Gap. Another of the depressions not far from the Water Gap was named in honour of an ancient Indian interpreter, Moses Funda Tatamy, who was an important man in these parts, and is now called "Tat's Gap," for short. In the dim past it is said the Kittatinny had no Water Gap, but dammed up the waters into a vast lake, covering North-Eastern Pennsylvania and all the adjacent country, and having its outlet at the higher level of the Wind Gap. But a mighty convulsion rent the rocks and let the waters through, draining the lake and uncovering rich lands, which became the favourite hunting grounds of the Lenni. Lenapes, who named it in their appropriate way the land of the "Minisink," meaning "the waters have gone." The mountain

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chain thus riven asunder left two abrupt peaks standing on either hand, towering 1,600ft. high. These were named in honour of the Indians, Mount Minsi from one of their tribes, and Mount Tammany from the most renowned chieftain of the Lenni Lenapes, who were afterwards called the Delawares. This was the great Tamanend, who, having been a "boss" Indian politician in his day, is not inappropriately reproduced as St. Tammany, who is the spirit now presiding over the council fires of the "Sachems of Tammany Hall," who try to rule the turbulent politics of New York city.

Retracing our steps down the Lehigh river to its mouth at the "Forks of the Delaware," and crossing the river to Phillipsburg in New Jersey, opposite Easton, we take a train on a branch of the Pennsylvania Railroad and ascend the upper Delaware valley. The river goes through a narrow gorge above Easton, with much pebble and shingle in the channel over which the rapid current foams, and the valley then broadening makes long reaches that give quite a fine outlook as the railway winds with the stream. Soon we pass Belvidere, "the town with the beautiful view," which has a superb position and a magnificent panorama before it of the woodclad hills across the Delaware, and the broad sweep of the river as it curves grandly around from the north towards the east to make a peninsula upon which the town is built. Its favourite newspaper is the *Belvidere Apollo*. The slate-roofed houses are wholly embedded in foliage, and their luxuriant gardens border the railway. Running over the farm-land and among rolling hills we soon get a broadening view far up the valley, and there, ten miles away, are the dark sides of the Kittatinny and its Water Gap. The train halts at the foot of the Penungauchung hills,

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which the modern railway builder has corrupted into "Manunka Chunk Mountain," through which the Lackawanna Railway comes by a tunnel, having crossed New Jersey nearly one hundred miles from New York Harbour. The lines unite and proceed directly for the Gap, which now stands up prominently before us, Minsi and Tammany rising far above the intervening hills—Tammany on the right, abruptly, and Minsi on the left, more sloping. Between them, through the narrow notch making the Gap, can be seen the dim outline of the Pocono mountain range far to the northward. The road is hewn out of the hill-side above the river level, and just below the Gap it crosses to the Pennsylvania shore. Then can be seen just behind, and partly closing the Gap, a lower peak, called the Blockhead Mountain. Soon the train reaches the foot of Minsi, and turning with the river suddenly to the left it enters the Gap, the line closely hugging the edge of the narrow stream that has broken the route through. The precipitous mountains rise high above us, and in fact far higher and with more stupendous cliffs than the range shows at either the Lehigh or the Schuylkill Gap. The enormous peaks seem almost ready to topple over. The railway swings grandly around to the left, and then to the right, through the gorge, with vast masses of rock far above and almost overhanging the line. In a few minutes we are through, and rounding the protruding Blockhead Mountain are at the station, the length of the pass being about two miles. Then the passengers are dragged in wagons up a steep zigzag road, through thick woods, on the highway leading to Tat's Gap. Successive ledges or geological terraces mark the face of Minsi, and upon these are the hotels and boarding-houses, for the Water Gap is a noted summer resort. After a

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crooked half mile and an ascent of about 400ft. the journey is finished.

From the hotel piazza at this elevation of 400ft., with the cool morning air gently blowing from the northward across the land of the Minisink, there is a charming view of this remarkable formation of nature. Opposite, on the New Jersey shore, is elevated the bold and lofty form of Mount Tammany, and to the southward spreads Mount Minsi, the river forcing a narrow way between them, although it runs far below, and is so covered in by the trees and projecting cliffs that it cannot be seen. Down in the valley the passing trains roll along, and they can be traced upon the black lines of rails far away to the north-west as they move up the valley of a little stream known as Brodhead's Creek, the Brodhead family being the great people hereabout. The Delaware river comes abruptly around the projecting point of a mountain from the north-east. The hunting grounds of the Minisink are spread all across the view to the northward, a broad and luxuriant expanse of rich and rolling farm-lands, crossed by the lower ranges of the Fox and Shawnee Hills, through which the creek comes by a miniature gap. The Pocono Mountains bound the Minisink in gray and misty outline at the horizon. Turning to the southward, the huge mountains bordering the Water Gap, barely a mile from us, close the view abruptly, excepting where the Delaware goes around its graceful curve through the narrow gorge and is soon lost behind the intervening cliffs. These are part of a precipitous but comparatively low mountain jutting out in front of Tammany, which prevents seeing the lower portion of the Gap, and this tantalizing obstruction has caused the stupid mountain which has thus put itself in the way to be called the Blockhead

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Mountain. With a companion cliff on the other side it makes the entrance gateway of the pass. Their sides are densely wooded, and between them the narrow stream curves prettily to the eastward. Minsi, also densely wooded, rising just below, like the curved side of a great basin, closes in the view, while the tall and abrupt wall of Tammany on the other side rises in bluish haze behind the smaller Blockhead in front. Between the two great mountains is the Gap, through which the river has broken its way to get to the sea—narrow, contracted, and apparently just opening like a pair of sliding doors. This extraordinary formation is upon such a stupendous scale that everything else seems dwarfed. Gazing upon the grand sight as the first beams from the sun have managed to get down and make a rippling silver streak upon the river above the pass, while the gentle air from over the Minisink country breathes a solace, we lean back in the capacious armchairs on the broad piazza, and through the openings in the waving foliage drink in the glorious scene. Here for fagged-out human nature is a balmy restorative, and the sight over blue hills and placid waters that gives a perfect rest. Such is the Water Gap as seen from Sunset-hill.

But this romantic region cannot be gazed at, no matter how beautiful, too long before breakfast. The mountain air while restful is an appetizer. After the necessary fortification of a good meal, we clamber down the hill by steep and winding paths and over rustic bridges, beside pretty bits of shrubbery and flowers and little waterfalls, and embark upon a tiny steamboat for a voyage down the Delaware through the Gap. The boat takes us out upon the narrow river at the bottom of an immense basin, with the towering mountains

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encompassing us, their green foliage clinging to the crags. We look back at Sunset-hill with the great hotels built upon its ledges one above the other, the upper one, which we have just left, seeming almost suspended from the sky, it stands so high above us. To the southward, the mountains forming the gigantic basin, at the bottom of which we are floating, raise their heads far higher, the almost perpendicular cliffs surmounted by masses of trees. These cliffs form a wall of dark red sandstone, rent into a horizontal chasm, looking not unlike the open mouth of some monster, and therefore called the "Dragon's Jaw." Far above, perched on an eminence, is a foliage-covered arbour. This is the "Lover's Leap," upon "Winona's Cliff," elevated more than 400ft. above the river. To the eastward, further around the basin, a wooded ravine divides the cliff from the side of Mount Minsi, which grandly rises far above. Here, on the "Promontory," 600ft. above the river, is another arbour, and about 100ft. higher up, but further back from the precipitous face of the mountain, a third arbour rises amid the foliage on top of "Prospect Rock." The river seems very narrow, the almost perpendicular mountain-sides coming down to the water's edge, and in their vastness dwarfing all below. The little steamboat, going down stream, heads for Mount Minsi, that seems to close the passage through which it flows, standing there like an obstructive wall as we round the end of Blockhead Mountain. Grandly the gorge sweeps around to the left as we glide along, the curving lines of rails at the foot of Minsi glistening in the sunlight. Soon passing the point of the Blockhead, we see the towering form of Tammany behind it, the Gap, like a little notch cut in the range, opening its sliding sides further

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and further down, as the steamboat moves. The beetling crags rising far above show the rocky upheaval that made this great mountain chain, and on both sides of the gorge the range rises higher and higher as we enter the Gap. Having rounded the eastern curve, we glide between the Blockhead and Minsi, and now steer direct for the face of Tammany, as the river begins its second grand curve through the Gap, this time reversing the movement and flowing towards the south around the base of Minsi. The narrow stream sharply bends to the right as we enter the pass, which is not 300 yards wide, while directly in front Tammany rises almost perpendicularly to nearly twice that height. The rocks on either hand, as we go between them, look as if the fissure had been rent by a sudden convulsion, and the whistle is sounded to show the superb echo reverberating from one side to the other in the deep chasm. A little further and the Gap suddenly ends, for the face of the Kittatinny, south of the pass, rises almost abruptly from a comparatively level plain, where low rocky ridges so cover the view of the water that it is almost impossible to discern the route taken by the river in flowing away.

Such a wonderful place as this, within a few hours' railway journey from the populous cities of the coast, has naturally become a popular resort. There are 30 or 40 hotels and boarding-houses within a small circuit around the Water Gap, and the earlier visitors formed associations that made roads and footpaths to display the beauties of the adjacent mountains. The earliest of these was the "Honourable Corps of Sappers and Miners," organized upon the truly American basis of giving every man an office. This body of axemen and roadmakers was composed of leading New York

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and Philadelphia people, who had about 100 officials of various grades of dignity to command a solitary individual who was known as the "High Private." Then came the "Minsi Pioneers," but after several years of industrious labours they fell into ways of idleness, and now the landlords chiefly look after the roadmaking. Among them all, however, convenient paths have been laid out to develop the beauties of this extraordinary gorge. The romantic "Sylvan Way" is laid out along the wild banks of the Caldeno Creek—a name which was made by three of the roadmakers, each contributing a syllable. The path leads from the steamboat landing up the creek to the level of the hotel at 400ft. elevation, where it is dammed into the "Lakelet" for a water reservoir—a pretty sheet of water surrounded by rocks and shrubbery. The "Sylvan Way" then leads further up the bank of the little stream, a rough and rocky pathway, over rustic stairways, among the laurels, through wild woods, past cascades and rapids, all given romantic names, and finally away from the stream and out towards the face of the mountain, where it runs into another route known as the "True Ridge Path." This is the most travelled route of the Gap, its entrance being an arbour erected by the "Minsi Pioneers," who have covered it with rustic emblems, with the motto, *Inveniam viam aut faciam*. It is a pleasant path along the face of the mountain, with frequent views through the trees out over the magnificent gorge. The travellers who have gone this way have numerously cut their names on woodwork, hand-rails, stairways, and bridges along the path. It leads steadily upward by bridges, flights of wooden or stone steps, and inclined and tortuous ways, until we come out at the arbour perched upon "Winona's Cliff." from which there is a

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grand outlook over the river, the mountains, and the valley, far away to the northward.

The thrilling story of Winona is the favourite tradition of the Water Gap. This beautiful maiden was the beloved and only daughter of the noble chieftain Wissinoming, who reigned over the Minisink more than two centuries ago. The Dutch at that time penetrated into this region from New York, and Hendrick Van Allen came along, upon an alleged mission from the Holland Government, to look after a copper mine, although, according to the story, his time seemed chiefly occupied by going out rowing and fishing with the charming Winona in a little red canoe. Soon afterwards Wissinoming died, and, his son Manatamany becoming chief, a rival Indian tribe essayed to defeat the young man, but after several trials found it could not be done. These contests, however, embroiled the Indians with the whites, whereupon the fair Winona, exerting her qualities as a diplomatist, restored peace. Then came the English conquest of the Dutch at New York, when orders were suddenly sent Hendrick to return to Amsterdam. He hesitated about breaking the sad news to Winona, but finally, taking her up upon the cliff, he read her the fatal letter. The effect was startling. The story says that, "standing firm and erect as the forest oak, displaying the heroism of her noble ancestry," she made an impassioned speech and "then disappeared. Hendrick ran to the cliff; caught her in his arms; they reeled on the precipice; and ——." Such is the story of the "Lover's Leap" from "Winona's Cliff," and the reader can imagine them dashed to pieces in the deep gorge beneath. The arbour stands where the lovers made the leap, and behind it a booth dispenses refreshing liquids to the less despairing lovers of to-day, who may get a wholesome thirst

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by climbing these steep mountain sides. We can look out far away over the Minisink and trace the Delaware for miles as it comes down in the flat land past a series of islands towards the Gap. The narrow river below us curves around in front, first to the left and then to the right, between the great mountains. Here can be seen to perfection the effect of the mighty convulsion that has let the river through the Kittatinny. Further up the mountain side the path goes on, and, winding around a grand ravine, comes out at the "Promontory," which is on Mount Minsi, and so perpendicularly above the water that if so inclined one could jump down into it. Another splendid view stretches far over the hills to the distant Pocono Mountains. The cloud shadows creep along the dark sides of Mount Tammany, which looks like a vast recumbent elephant, its peaks towering above us, an almost unexplored region. The path then leads still higher over the rough sandstone to the "Prospect Rock," and finally, a mile further, to the "Summit." This is much higher, but its views lack the superb beauties of the transcendent scene from the less elevated spots that overlook the Gap, although the summit displays an outlook over many miles of country on both sides of the great range.

The gem of the Water Gap is the "Eureka Glen." High up on the mountain side spouts out the "Hunter's Spring," and the stream from it rushes down a precipitous gorge, wild beyond description, the overhanging trees shutting out all rays of the sun, so that the growth of mosses and ferns is most beautiful. Occasionally the piles of moss-covered rocks almost conceal the stream flowing beneath them, which makes a succession of cascades for over a thousand feet down the ravine until it darts under the railroad and

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into the river. The glen is entered from the "True Ridge Path" at the top. The broad footpath down it has long rustic stairways and bridges so placed as to display all the beauties of the glen, its stream tumbling swiftly over the moss-grown rocks and plunging down the cascades. At times the path crosses the wild gorge, which is the most enchanting of the wonders of the Gap. It is abrupt in its descent, so that the route descends lengthened stairways and winds in full view far below, as you look through the trees down the wild, rough, and rock-lined fissure. The stream dashes over its largest waterfall into the "Grotto," where the brownstone rocks stand up in the form of a capacious amphitheatre, and then it reaches "Rebecca's Bath," a little water-basin, so naturally formed that it looks as if some one had placed it just by the exit of the glen at the river. Alongside this bath, with winding steps leading the path into it, is the most attractive arbour at the Gap, a pleasant place to sit under the rustic roof and watch the waters run over the edge of the basin and disappear under a little bridge. From Eureka Glen paths lead along the face of the Giant's Cliff, hundreds of feet above the roadway far below, where caves are hollowed out, and then right into the Dragon's Jaw, where rough rocks on the outer edge make teeth and fangs. Vigorous scrambling is necessary, but the exercise is healthy, and no one can undertake the task without feeling the exhilaration.

Above the Water Gap, stretching along the western base of the Kittatinny, is the pretty valley of Cherry Creek, a land which the local chronicler describes as "full of dimpling hills and fine orchards, among which stalwart men live to a ripe old age upon the purest apple whisky." There are plenty of rocks, and the country folk live in old,

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time log and plaster houses. Slate factories are a prolific industry, and the sign-posts on the highway along the valley generally point to the Water Gap one way and the Wind Gap the other way. Beyond this, across the range of the Fox Hills, is the Pocono Valley, with the chief town of this region of the Minisink spread along its bottom lands, Stroudsburg, upon the Pocono Creek, with the lofty Pocono Mountain range rising in the distance behind it. This is a comfortable-looking place, with rows of shade trees fronting the main street along the broad gardens that surround the cosy residences. Many of the people are slate-makers and tanners, both being profitable industries throughout this region. Like so many portions of the States, religious persecutions in Europe sent the earliest settlers to the Upper Delaware. Nicolas Depui, a Huguenot, was the first European at the Water Gap, coming here in 1725, and living in friendliness with the Indians. Then three brothers La Bar, more refugees from French religious persecution, desiring to be solitary, built a cabin below the Gap, and plodded through the gorge to get their wheat ground at Depui's little mill in the valley above. They married Dutch wives, but at the opening of the present century, the country getting too crowded for them, one of the brothers emigrated to the frontier, then in Ohio, to get more room. When he reached his 98th year he had the misfortune to lose his wife, and feeling lonely out on the Ohio frontier, in his 100th year he married a second wife, and afterwards lived to the sturdy age of 105. This venerable pioneer left a son at the Water Gap who became the most famous American centenarian of his time—George La Bar, a vigorous woodchopper almost to the day of his death, who died at the age of 107 in 1876. His brother

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lived beyond 98, and his son, who was aged 21 when he married a wife aged 13, still lives there with her, both being vigorous octogenarians. Such is the longevity induced by the wholesome air of these marvellous mountains. When Stephen Girard came to America he had a companion, Antoine Dutot, who wandered to the Water Gap, founded its little village that has grown into such a popular resort, opened the first road through the gorge in 1800, and then, when his life had ripened for the harvest, selected his own grave on Sunset-hill, where he was buried, solitary and alone, at a ripe old age, like all the others. His original highway is now the railway route through the Gap. Such is the record of this great wonder of nature, the gorge the Delaware river has broken through the mighty Kittatinny range to get its route to the ocean.

XIV.—FROM THE DELAWARE TO THE CHESAPEAKE.

Having digressed upon our brief excursion among the Alleghanies, we will resume the journey along the lowlands towards the National capital. South-westward from Philadelphia, the Pennsylvania Railroad's southern line follows the bank of the Delaware river. It crosses the Schuylkill and quickly takes the traveller through the suburbs and past a region of villas and market gardens that for miles make an almost continuous hamlet. Many streams are crossed that flow into the Delaware and have upon their banks the remains of ancient mills whose wheels their waters turned. Darby Creek provides the country with

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whetstones, and the granites of its neighbourhood built the Delaware Breakwater. Below this is the region of earliest settlement upon the Delaware, where the Swedes came years before Penn's arrival. They settled at Wilmington, and later at Upland, now the flourishing city of Chester, and it was here that Penn first landed in 1682, prior to the settlement of Philadelphia. This is a busy manufacturing town, and was a centre of the iron shipbuilding industry while John Roach lived. His extensive shipyards, spreading along the river in the southern part of the town, have recently been almost deserted, having next to nothing to do. John Roach, who came from Ireland to New York when a boy, penniless and friendless, became the most noted American shipbuilder of his time, but met with foes and misfortune, the weight of his ill-fortune finally sinking him into the grave. The railway beyond Chester is laid closely to the river over the level land, and 15 miles from Philadelphia crosses the boundary into the "Diamond State" of little Delaware. Then it diverges from the river towards the south-west, and, crossing the Brandywine creek, enters Wilmington. This picturesque stream, which drains one of the most prolific agricultural regions of Pennsylvania—the Chester Valley—a land of dairy farms and good butter, comes over falls and down rapids in reaching Wilmington through a series of hills that form a fine background for the city.

Delaware is the smallest State of the American Union, and yet among the most powerful, because always represented by leading statesmen. Wilmington is the home of Bayard, the American Secretary of State. It has 60,000 inhabitants, and is the seat of extensive manufactures, while within its borders is the small rocky promontory upon

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which the first Swedish colony in America landed in 1638, making the first permanent European settlement in the Valley of the Delaware. Their little old church still stands alongside the railway in a yard filled with time-worn gravestones. The line runs for a long distance past the Wilmington shipyards, railway-car factories, and mills of all kinds in full operation, the city stretching far up the slopes of the hills to the westward. Then the train moves out of the city and across the level land towards the head of Chesapeake Bay. A short distance off is the parallel line of the Baltimore and Ohio Railway, just completed as a link in the route of that company towards New York. The country is uninteresting; a few scattered villages are passed; and the boundary is quickly crossed from Delaware into Maryland, which is entered in Cecil county, enclosing the head waters of Chesapeake Bay. The road crosses its north-east tributary, and passes Elkton at the head of Elk river, and, gradually curving around its head waters, comes to the Susquehanna river, 60 miles from Philadelphia. The Chesapeake is the greatest inlet in the Atlantic coast of the States, extending over 200 miles up into the land, with a breadth varying from four to 40 miles, and the largest ships can ascend almost to the mouth of the Susquehanna, which is its chief tributary, although other very large rivers, like the Potomac and the James, also flow into it. This bay is remarkable for the great number of its arms or estuaries, some serving as outlets for rivers, while others are fed by no permanent streams, but are merely indentations. It is the favourite resort of the sportsman, and its oysters, fish, and game have wide celebrity. The Susquehanna river, upon which we recently looked as it flowed through the beautiful Wyoming valley, is crossed by the Pennsylvania Railway just above

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its mouth upon a long and costly iron bridge. Above, the broad river winds between its wooded shores, and the bridge of the other railway is thrown across, a light truss upon granite piers, while below is the wide expanse of the bay, and across it the hazy "Eastern Shore," which is a land of peaches and market and fruit gardens for the northern cities. Beyond the Susquehanna there is little population, and the flat land is varied with the great arms of the bay, wide, sluggish, and shallow, which are crossed on long trestle bridges. These Maryland rivers are not remarkable for either length or scenery, but they make it all up in their width; and, having crossed several of them, the line reaches Baltimore, and turns westward to pass around and under the city. It goes through the northern and western suburbs by a series of tunnels, giving quick and easy transit, on the way to Washington. The Pennsylvania Company expended over one million sterling in making this line through Baltimore, one of the tunnels being nearly a mile and a-half long. In a narrow opening among the hills on the northern edge of the city, where a small but rapid stream known as Jones's Falls comes down through a ravine, the train halts under North Charles-street in the Baltimore Station. Here are in full view the fine buildings of the Johns Hopkins Hospital, off to the southward, one of the best charities of the "Monumental City."

Baltimore is the chief city of Maryland and the great port of Chesapeake Bay. The spreading arms of the Patapsco river provide an ample harbour, their irregular shores making plenty of dock room, and the two great railways giving it much trade. Its foreign traffic usually exceeds that of Philadelphia, there being profitable steam lines to Europe and along the coasts. Huge elevators

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at Canton and Locust Point, always surrounded by shipping, show the extent of the corn trade brought from the Far West for transit abroad. From the harbour, long and narrow docks, and also the "Basin," extend up into the city, and across the heads of them is Pratt-street. This highway along the docks is famous as the scene of the first bloodshed of the American Civil War. The Northern troops, hastily summoned to Washington, were marching through the city from one railway station to the other, on April 19, 1861, when the Baltimore mob of "Plug Uglies," who sympathized with the South, and were congregated about the docks, attacked them on Pratt-street. Eleven were killed and 26 wounded in the riot, which led to the adoption of energetic measures to maintain Government authority in Baltimore. Northward, some distance from Pratt-street, is the chief avenue of the city, Baltimore-street, bordered by very fine buildings and shops. The creek called Jones's Falls, which comes down a deep valley from the northward, divides the city into two almost equal sections, and in the lower part it is walled in, with an avenue on either side. Colonel David Jones, who was the original white inhabitant of the north side of Baltimore Harbour, gave this stream its name more than 200 years ago, before any one expected even a village to be located there. The settlement afterwards began to the eastward of the creek, and it was known as Jonestown, while Baltimore was not started until 1730, when it was laid out some distance westward of the creek and around the head of the "Basin," or inner harbour, the plan covering 60 acres. This was then called Newtown, as the other (Jonestown) was popularly termed Oldtown, but they subsequently became united and lost their distinctive names in Baltimore, thus designated in

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honour of Cecilius Calvert, Lord Baltimore. The city, which, in 1752, had about 200 people, now numbers 400,000, and has spread for miles on all sides of the capacious harbour at the head of the estuaries of the Patapsco.

The general appearance of the city is picturesque. It is laid out according to the rectangular plan of most American towns, upon an undulating surface, and with streets of good width. The buildings show wealth and much comfort, there being an aspect of cheerful elegance throughout the residential portion that is very attractive. The many hills incline either to Jones's Falls or towards the harbour, so that the summer storms often make sudden freshets, and, in fact, the whole of lower Baltimore seems in a state of constant preparation for overflows, elaborate systems of tall stepping-stones being provided where the rainstorms are in the habit of making temporary torrents of the highways. The popular title of the "Monumental City" was given to Baltimore because it was the first of the American towns that had fine monuments, and the name clings to it, although elaborate shafts are now seen in many other parts of the States. The State of Maryland at the beginning of the present century erected a fine monument to Washington, on Charles-street, which rises 190ft., a Doric shaft of white marble, surmounted by his statue, and standing upon a base 50ft. square. This magnificent monument is erected in a broadened avenue at the summit of a hill, having an inclined and terraced walk leading up to it, with a fountain in front, the whole being surrounded by tasteful lawns and flower gardens. It makes a centre for Mount Vernon-place, which contains the finest collection of buildings in Baltimore, giving a scene essentially Parisian. Here is the marble building of the Peabody Institute.

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which was George Peabody's first benefaction to his countrymen; and here has been built a palace by Robert Garrett, of the Baltimore and Ohio Railroad, which has just been completed, and eclipses in its elaborate and costly interior decorations even the Vanderbilt palaces in New York. Railroad management as pursued by Mr. Garrett's father produced an enormous fortune, which has made the son the wealthiest man in Maryland. The "Battle Monument" of Baltimore is located in Monument-square, on Calvert-street, and is more modest than the other, a marble shaft 53ft. high. It marks the British invasion of 1814, and commemorates the men of Baltimore who fell in battle just outside the city, when the British fleet shelled the town and the land forces marched from Elk River to Washington and burnt the national Capitol. There are several other monuments of less pretensions, so that the name given Baltimore in popular parlance is well deserved.

The chief building of this attractive city is the City Hall, a Renaissance marble structure, covering an entire block, and costing £460,000. Its splendid dome rises 260ft., and gives a magnificent view over city and harbour. The Mount Vernon Methodist Church, of green stone, with buff and red facings and polished columns of Aberdeen granite, is the finest church, although the First Presbyterian Church near by is regarded as the most elaborate specimen of Lancet-Gothic architecture in the country, its spire rising 268ft. The Roman Catholic Cathedral is a granite church of some pretensions, containing paintings presented by Louis XVI. and Charles X. of France. There are many other sacred edifices of architectural merit scattered about Baltimore. Its greatest charities are the Johns Hopkins Hospital and the Johns Hopkins University, the estates

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with which they are endowed reaching £1,500,000. The two prominent Baltimore names are John W. Garrett, the railway manager to whom I have above referred, and Johns Hopkins, a shrewd and penurious merchant, whom Garrett persuaded to make these princely endowments, much of his fortune being invested in Baltimore and Ohio Railroad shares. His hospital, on which £500,000 has been expended, stands upon a tract of 13 acres, and its trustees declare it to be the largest and most elaborate institution of the kind in the world. It is an adjunct to the Medical Department of his University. The greatest institution of Baltimore is the Baltimore and Ohio Railroad, giving it direct railway communication with the Mississippi Valley. It was the first started of the great American trunk railways, its origin dating back to 1826, when the movement for the charter began, which was granted the next year by the Maryland Legislature. It is related that when the charter, granting most comprehensive powers, was being read in that body one of the lawmakers interrupted with, "Stop, man, you are asking more than the Lord's Prayer." The reply was that it was all necessary, and the more asked the more would be secured. The interrupter, being convinced, responded, "Right, man; go on." The corner stone of the railway was laid July 4, 1828, beginning the route across the Alleghanies from Baltimore to the Ohio river. It now has its extensive terminals at Locust Point, its great shops at Mount Claro, and its lines reaching both north and west from Baltimore.

The park of the "Monumental City" is Druid-hill, in the northern suburbs, a pleasure ground of over 600 acres. To reach it Eutaw-street broadens into Eutaw-place, where rows of stately brick dwellings border the wide avenue, which has

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gardens in the centre ornamented with flowers and tiled footwalks. These gradually change into a region of elegant villas, and the park is finally entered by a statoly gateway. It has an undulating surface of woodland and meadow, and the mansion and family burial-ground of its former owner are within its borders, the latter masked by trees. The entrance is by an avenue lined on either hand with long rows of flower vases standing on high pedestals, and laid out alongside Druid Lake, the chief water reservoir of the city. About a hundred yards within the gateway the avenue divides, and the backward view through the rows of vases to the entrance is charming. Immediately one gets among thick foliage, and apparently far away from the city, the park not being overwrought by art, but mainly left in its natural condition. The grand old trees are there in multitudes, with broad stretches of lawns, rolling meadows, with smooth-cut grass and sturdy oaks on the hillsides, making a scene decidedly English. Numerous little lakes add to the beauty, and every shady nook is liberally supplied with comfortable benches. The mansion-house occupies a commanding position in the centre of the park, and fronting it is a wide concourse. There has here been produced at little cost one of the most beautiful park effects ever made. From the spacious piazzas the visitor has an outlook over the concourse, and beyond the sloping lawns and a magnificent fountain to a distant wood of oaks, through which has been cut a narrow vista across the Druid Lake to the park entrance, half a mile away. The land rises on the northern side of the park to Prospect-hill, which overlooks the suburb of Woodberry, nestling in the valley formed by Jones's Falls, with hills rising beyond and many ornamental country houses. In the bottom of this

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valley, and taking advantage of the fissure it makes, the Northern Central Railway runs from Baltimore northward into Pennsylvania, ultimately reaching the Susquehanna river and following its banks up to New York State and Lake Ontario. From this hilltop there is a superb view all around the horizon and eastward for miles beyond the harbour.

Much of the higher grounds in this beautiful park are used for water reservoirs. The city has the advantage of receiving its supply by gravitation from the Gunpowder river to the northward, where a lake has been formed, and the water, which is of the purest, is then brought through a tunnel for seven miles to the reservoirs. There are a succession of these—Lakes Montebello and Roland, Druid Lake, and the lowest level on Mount Royal nearer the city. A look-out tower has been built on the terrace making the southern border of Druid Lake, and this gives another pretty view across the city and harbour. At our feet are the railways in the Jones's Falls ravine, while all along between us and the city, skirting under the side of Mount Royal, are bored the succession of tunnels making the Pennsylvania Railway route through Baltimore to Washington. Leaving the park by a tastefully-constructed entrance on this side, we go down into the ravine, cross the railways and the creek, and, passing through an attractive residential section, ascend the other side of the valley to Greenmount Cemetery. This is not very large, but it is well populated, a pretty ground with gentle hills and valleys. Here is buried, in a spot selected by herself, Madame Patterson Bonaparte, the discarded wife of Jerome, the King of Westphalia, her checkered history being one of Baltimore's favourite romances. Here also lies Junius Brutus Booth, the tragedian, and his

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family. A granite monument on a brownstone base surmounts the grave of his son, John Wilkes Booth, who was the murderer of President Lincoln. The most impressive sight presented by Baltimore, however, is its fort—a small but strong work, down in the harbour, on the extreme end of Locust Point, beyond the huge railway elevators, on a low-lying esplanade with green banks sloping almost to the water. It was the position of this fort, thoroughly controlling the city, that held Baltimore during the early movements of the Civil War, and maintained the road from the North to Washington. Its greatest memory, however, and by the association probably the greatest celebrity that Baltimore enjoys, comes from the flag on the staff, now quietly waving over its parapets. The British made a fierce bombardment of this old fort in 1814 when they menaced Baltimore, and the flag waved from the staff unharmed throughout the night, an interested spectator of the combat being a Baltimorean, Francis Scott Key, who was a prisoner on one of the vessels of the bombarding fleet. Inspired by the scene, and by the fact that the flag withstood the bombardment, Key composed the American patriotic anthem of "The Star-Spangled Banner," which has carried everywhere the fame of the town, its fort, and the flowery flag.

XV.—THE AMERICAN NATIONAL CAPITAL.

From the city of Baltimore to the American National Capital of Washington the distance is barely forty miles, and is quickly travelled by rapid railway trains on both the Pennsylvania and the Baltimore and Ohio lines. The former is known here as the Baltimore and Potomac Rail-

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way, a comparatively new road running south-westward from Baltimore beyond the great tunnels bored under its suburbs, and in the outskirts of the city being carried under the rival line. The train moves swiftly through a hilly region and by a winding route, circling about the rolling country to seek the easier gradients, but presenting little that is interesting. About half-way between the cities a branch line goes off eastward down to the shore of Chesapeake Bay to Annapolis, the quaint and quiet capital of the State of Maryland, standing in a beautiful situation on the Severn river, and formerly a seaport of pretension until eclipsed by Baltimore. As the greater city was given the name of Lord Baltimore, so this was originally called Anne Arundel, in honour of Lady Baltimore, and that is still the name of its county, although the town came to be finally known as Annapolis, from Queen Anne, who gave it valuable presents. It is now best known as the seat of the United States Naval Academy, which has a fine establishment there. Our railway passing Annapolis Junction, soon approaches Washington from the north-east, and long before the city is reached there can be seen its greatest landmark, the white dome of the Capitol building upon its elevated location on Capitol-hill, rising high above the surrounding region, while apparently alongside is the slender and delicate shaft of the Washington Monument. As we gradually approach, the railway circles around the eastern side of the city, and this movement of the train makes the monument apparently pass behind the Capitol from the right hand to the left. We cross the Anacostia, or eastern branch of the Potomac

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river, and skirt along the sloping hillside of the Congressional Cemetery, where many statesmen are interred, and then passing the Washington Navy Yard, with its ship-houses and shops, dart through a tunnel under the projecting spur of Capitol-hill into the heart of the city. The train moves through several of the very wide streets and finally runs into the station, where the traveller receives a warm welcome from a vociferous tribe of Negro hackmen and porters, for the "coloured population" are numerous and do most of the work and have much to say in Washington. The railway station is an ornamental brick building on Sixth-street, near Pennsylvania-avenue, and is noted as the place where the late President Garfield was shot by the assassin Guiteau. The President had just entered the waiting room to pass through to the train when the assassin, quickly following him in from the street, shot him from behind. A small star set in the floor marks where Garfield fell, and a tablet on the wall above records the name of James Abram Garfield and the date of the crime, July 2, 1881. This was the second assassinated American President, killed by a mad office-seeker, as the first one, Lincoln, had been by a mad tragedian, the minds of both murderers being unbalanced by the events of their time.

The city of Washington is a remarkable place. In other countries the capital is usually the chief city, but it is not so in the States. Washington has no manufactures and barely any commerce, and while the population approximates to 200,000, yet the people are so largely made up of officials and civil servants of various grades, with the negro element fulfilling domestic duties, that were the Government removed with all who belong to or depend upon it there would

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be little left. There are at least 30,000 army and navy officers and civil servants constantly in Washington, and these, with their families, are the larger part of the inhabitants. The city has been designed upon a very grand plan, which is only partially carried out. It is made up of vast public buildings, parks and squares, circles and triangles, and "reservations" of open spaces, with a most liberal admixture of hotels, lodging-houses, and restaurants. In recent years, in the newer portions, there have been added many fine dwellings by public men, it having become more and more the habit of the leading Ministers and Congressmen to build and occupy their own homes. The original ground plan of the city was ambitious, and laid out upon an extensive undulating plateau bordered by rolling hills to the north and west, and sloping down towards the Potomac river. The Indians called the place Conococheague, meaning the "roaring water," from a rapid brook running through it. The stream which laved the foot of Capitol-hill was afterwards very properly named the Tiber, but it has since degenerated into a sewer. The jealousy among the colonies originally forming the United States was so strongly developed at their first capital at Philadelphia that questions of locality almost disrupted the Union. To cure the difficulty the decision was made that an entirely new site for the capital should be chosen in the centre of the nation, where no city then existed, and the bank of the Potomac river was selected, mainly through the agency of General Washington, who lived at Mount Vernon, a short distance below. Under his guidance the plan of the city was made by Andrew Ellicott, a prominent surveyor of the time, and it was called the "Federal City," but Congress changed this to "the

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city of Washington." The corner-stone of the Capitol was laid in 1793, although the Government was not removed from Philadelphia until 1800. The intention was to secure a location that would be purely a capital, free from the control or influence of State or city government of any kind, or under awe of an unruly populace. This plan is so effectively carried out that Washington to-day is ruled only (and with a really despotic power) by the President and Congress, the immediate population neither choosing nor having any voice in their government, which is vested in a commission whom the President appoints. So generous is the treatment, however, that this system is gladly accepted, for, besides the enormous expenditures made for government purposes and upon the numerous public buildings, and the extensive and well-kept grounds, the National Exchequer also contributes one-half the necessary money for carrying on the actual city government itself. This latter expenditure, which is about £800,000 annually, is provided, one-half by the nation and the remainder by the local ratepayers.

Washington and Ellicott laid out their capital city upon a plan five miles long and three miles broad. They expected that a vast metropolis would soon grow up, but in practice only a comparatively small portion has yet been built upon, and this is hardly located where they intended the chief part of the new city to be. This surface, under a recent "boom" in building operations, is rapidly extending. They took the plateau of Capitol-hill for their centre, and made a plan arranged according to the cardinal points of the compass, with wide streets stretching north, south, east, and west, and crossing at right angles, and wider avenues laid diagonally. No man's name was used for any of them, as this might cause jealousy,

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so the streets were numbered and lettered, and the avenues named after States. This plan of Washington has been significantly described as "the city of Philadelphia griddled across the city of Versailles." The front of the Capitol was made upon the elevated plateau of the hill facing the east, and their town was to have been mainly located upon this plateau in front of it. Behind the Capitol, on its western side, the brow of the hill descended sharply, and here they laid out a broad and open Mall, westward over the lower ground, down to the bank of the Potomac river. Off towards the north-west, at the end of one of the wide diagonal avenues, they located the Executive Mansion, with its park and gardens stretching southward to the river, and almost joining the Mall there at a right angle. Thus the city was designed to be in an elevated and salubrious situation, with the President secluded in a comfortable retreat with ample grounds nearly a mile and a half away in the rural district. But such is the unexpected outcome of most things, and the perversity of human nature, that the people when they came here would not build the original town on Capitol-hill, but they flocked to the lower ground and persisted in settling along and adjacent to the broad avenue between the Capitol and the Executive mansion; and there and beyond the latter to the westward and northward is the greater part of the Washington of to-day. There are thus two widely-separated Government establishments joined by this avenue, the Capitol where Congress rules and the chief Department buildings which surround the President's mansion, while the Pennsylvania-avenue between them has become the chief street of the modern city.

The Capitol, upon which three millions sterling have been expended, and which is still costing

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large sums for the completion of its extensive marble terraces and ornamentation, is the chief building of Washington, and, with the exception of the City-hall at Philadelphia, is the largest structure on the continent, covering nearly four acres. Its commanding position on the brow of Capitol-hill adds to its impressive beauty, for there are few façades in the world that are more magnificent than the broad western front of this grand Republican palace, stretching over 750ft. along the top of this elevation, which rises sharply from the lower ground until it reaches an altitude of 90ft. above the Potomac, while the enormous dome rears its lofty lantern, ball, and Liberty Statue to the height of about 450ft. The white marble gleams in the sunlight and fitly closes the view along the great avenues which radiate from it as a common centre. The Americans are proud of their Capitol, which in its own growth has plainly shown the rapid expansion of the country, for it has had to be extended to accommodate the increasing Congress. The original Capitol, of which General Washington laid the corner-stone in 1793, was, with the Executive mansion, burnt during the British invasion of 1814, and afterwards rebuilt, and was finished about 60 years ago, being designed for a Congress then scarcely half the size of the present one. Both the Senate and House soon outgrew their quarters, and nearly 40 years ago extensive wings were planned, which were built before the Civil War; and then the great dome was erected as an architectural necessity to raise the low centre of the building, so that the Capitol as it now stands is about 25 years old. Where the original building provided for 40 or 50 Senators and a House of about 150 members, the present one is accommodating a

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Senate of 76 and a House of 325 members, with many committee rooms and adjunct offices. The Capitol stands in a park of about 50 acres, including the western declivity of the hill and part of the plateau on top. The great central Rotunda under the towering dome is the most striking feature of the interior of the Capitol. From the broad platform at the head of the elaborate staircase leading up from the grounds to the entrance of the Rotunda on the eastern front, under the grand Corinthian portico, the President of the United States delivers his inaugural address on March 4 in each leap year, when he is sworn into office by the Chief Justice. Congress is seated on the platform behind him and the populace assemble on the esplanade in front, where in the background of the view is a colossal statue of Washington, seated in his chair of State, and facing the new President, as if in warning. The Grand Rotunda is nearly 100ft. in diameter and above it the interior of the dome rises 180ft. from the floor, the extensive canopy under the roof being ornamented with fine frescoes by Brumidi. Large panelled paintings on the walls, and *alti rilievi* above them, represent events in the origin and early history of the country, while at a height of 100ft. from the floor the artists are now painting a series of illustrations, on a band 9ft. wide running around the interior, which tell the story of American history from the landing of Columbus until the present. It is significant that the elaborate decorations of the American Capitol, while reproducing so much in Indian legend and revolutionary history, have not in any way been used to recall the late Civil War, the memory of which the mass of the people seem to desire to forget.

The original wings of the Capitol on either side

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of the Rotunda contain the old halls of the Senate and House, which are now devoted to other uses. These are semi-circular apartments, the old Senate Chamber being now occupied by the Supreme Court, and the Representatives' Hall being practically vacant, Congress having designated it as a gallery for statuary, to which the States are to contribute patriotic subjects; but they have only sparsely responded, there being 18 statues there, and most of them American revolutionary heroes. Beyond these old halls on either hand are the extensive new wings, which are now the Chambers of Senate and House, each wing covering a surface 238ft. by 140ft. The interior of the Representatives' Chamber is 139ft. by 93ft., and is lighted by a transparent roof. Spacious galleries for the public surround it, and the marble desk of the Speaker is flanked by full-length portraits of Washington and Lafayette, behind which are the lobbies. Committee rooms and offices adjoin the hall, and also fill up the basement beneath. The House meets usually at noon, and holds most of its sessions by daylight. The members sit in a series of concentric rings arranged on gradually rising levels as they recede from the Speaker's desk. Each member has his chair and desk and faces directly towards the Speaker, the whole arrangement being much like the forms in a school. The dominant Democratic party occupies the portion of the Chamber at the Speaker's right hand, and the Republicans the left. In practice, while the House is sitting, the members are usually reading or writing, excepting the few who watch the progress of business because they are specially interested in the matter under consideration; and the member who has the floor and is speaking is actually heard by but few of the House, his speech being gene-

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rally made for the benefit of the public galleries and the official stenographers and newspaper reporters. It is rarely that debate rises to a point of interest engrossing the actual attention of the whole House, and most of the oratory seems to be delivered for special effect in the member's home "district," this being denominated as "talking for Buncombe." The members read their papers, write their letters, clap their hands sharply to summon the nimble pages who run about the Hall upon their errands, gossip in groups, and otherwise pass their time, move in and out from the retiring and committee rooms, and in various ways manage to not listen to most that goes on. The business progresses under an iron-clad code of procedure, with the Speaker a despot who largely directs matters by the method he adopts in recognizing members who may wish to speak, and generally get their wish by previous arrangement.

The Senate Chamber is somewhat smaller than the House, and is similarly arranged, being an apartment 113ft. by 80ft. Its surroundings are grander than those of the House, magnificent marble staircases leading up to the galleries, while gorgeously ornamented apartments are provided for the President and Vice-President, and in the "Marble Hall" the Senators give private audience to those wishing to consult them. The President's room is only occupied during a few hours in the closing scenes of a Session, when all is hurry and confusion, and the President goes to the Capitol to give the final assent to Bills which have been delayed to the last moment. This splendid apartment for the remainder of the year is a show-place, being the most elaborate of all in decoration, having had £10,000 spent upon it, although a comparatively small room. The Senators are

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a more staid and venerable body of men than the members of the House, but they conduct business similarly, and in practice have greater power. Each Senator has his desk and chair facing the Vice-President, who is the Speaker of the Senate, and these desks, as in the House, are arranged in semi-circular rows. It can be said to the credit of the Senate, however, that there is much more attention paid to the debates than in the House, and while the latter almost constantly suppresses verbosity by the application of the *clôture*, here called "the previous question," the higher body has not yet adopted such a rule, so that senatorial oratory is given free flow, and Senators who do not want to listen usually withdraw quietly to a committee-room until something transpires in the Chamber that is more attractive. The library of Congress, which is the largest in America, occupies spacious apartments west of the Rotunda, which, however, it has entirely outgrown. A fine new building has been ordered that is about being erected east of the Capitol, and this will give relief, for the books are now piled on the floors and wherever space can be made for them. This great library grows at the rate of fifteen to twenty thousand volumes a year, and now numbers about 450,000, containing not only the best collection known of American publications, but also being especially rich in foreign works in every department of literature. It is a public library in the freest sense, and the American law requires copies of all copyrighted works to be deposited. There were 4,676 deposited last year.

From the terrace on the western front of the Capitol there is a fine outlook over the city of Washington, spread upon the lower ground. Diagonally to the south-west and north-

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west extend two grand avenues as far as eye can see—Maryland-avenue to the left, leading down to the Potomac, and carrying the Pennsylvania railway to the river-bank to cross over into Virginia; and Pennsylvania-avenue to the right, the chief street of the city, stretching far away to the distant Treasury building and the park south of the Executive mansion. Between these diverging avenues, and extending down to the Potomac more than a mile away, is the Mall, a broad enclosure of lawns and gardens, having in the foreground the Government Botanical Gardens, and behind them the spacious grounds surrounding the Smithsonian Institution, while beyond, near the river-bank, rises the tall, white shaft of the Washington Monument with its pointed apex. The Botanical Gardens have conservatories filled with rare and valuable plants from all parts of the world, which are surrounded by ornamental grounds, there being some 30,000 plants on exhibition. The Smithsonian Institution is, however, the most interesting of all the public structures in Washington. The beginning of this great establishment was the gift of an Englishman to America, James Smithson, a natural son of the third Duke of Northumberland, having bequeathed £120,000, which, upon the death of his nephew without heirs, occurring in 1835, was to go to the Government of the United States, to found at Washington an institution "for the increase and diffusion of knowledge among men." The original fund is deposited in perpetuity in the Treasury at six per cent. interest, and the income has been devoted to the erection of buildings and, with other sums, to the support of the vast establishment which has grown from the original gift. The late Joseph Henry designed the scope and purposes of the Institution, and the buildings

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were begun 30 years ago, Professor Henry continuing at its head until his death. His statue stands in the grounds near the entrance. The Institution is a splendid castellated structure of red sandstone in the Renaissance style, with nine towers rising 75ft. to 150ft., the grand front stretching about 450ft., and the towers prettily rising behind a grove of trees. It contains an elaborate museum of natural history and anthropology. In connexion with it the Government has built another elaborate structure about 300ft. square—the National Museum—containing numerous courts surrounding a central rotunda, beneath which a fountain plashes. The two establishments are under the same management, the design being in time to perfect a collection much like that of the British Museum, but paying more especial attention to American antiquities and productions. This adjunct museum began with the donations made by foreign Governments to the American Centennial Exhibition of 1876, most of which are preserved here. There is also a particularly good collection of American ethnology, and a most elaborate museum of American fossils, minerals, animals, birds, and antiquities. Here are also shown by the Government Fish Commission specimens of the fishing implements and fishery methods of all nations, making an exhibition that is probably unexcelled in these special features. The Government during recent years has been keeping through this Commission careful watch over the fishery interests of the country, restocking the rivers and coasts, and doing valuable work in studying the habits and conditions of the food fishes. The museum also contains many other interesting things. The personal effects of George Washington and Andrew Jackson are here, and those of General Grant

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have recently been added, they having been given the Government. Benjamin Franklin's old printing-press is preserved in a somewhat dilapidated condition, and it will interest Englishmen to know that the museum also contains the first railway locomotive sent from England to the States. This is the original locomotive "John Bull," built by Stephenson and Son, Newcastle-upon-Tyne, in June, 1831, and sent out as "Engine No. 1," for the Camden and Amboy Railroad, now part of the Pennsylvania Company's lines between New York and Philadelphia. It weighs 10 tons, and has four 4½ft. driving-wheels. This relic was used on the railway for nearly 40 years, and, being superseded by improved machinery, was given to the Government as a national heirloom.

Westward from the Smithsonian grounds is the Agricultural Department, occupying an extensive brick and brown-stone building, with its library, museum, and offices, and surrounded by gardens and greenhouses. The American Governmental system is one of developing the arts of peace rather than those of war, and hence great care is taken of the vast agricultural interests of the country. These naturally become paramount in a land where over three-fifths of the men are farmers and agricultural labourers, and it has become a popular saying in Congress that if you wish to scare the House you have only to shake a cow's tail at it. This department is expected before long to rise to the dignity of having a Cabinet Minister at its head, and it is now used as a vast distributing office for seeds and cuttings, crop reports, and farming information, having grown into an enormous bureau. Behind it, and rising almost at the bank of the Potomac and in front of the Executive mansion, is the Washington Monument, the pointed apex being elevated 555ft. above the

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river. This is a square and gradually tapering shaft, the lower portion being built of stones contributed by all kinds of public organizations and corporate bodies, and some by States and foreign nations, each bearing suitable inscriptions in memory of Washington. A dark and difficult climb elevates the visitor to the top, where through the little square windows a grand view is had over the surrounding country. To the north-west, afar off, is seen the long, hazy wall of the Blue Ridge mountain range, its prominent peak, called the Sugar-loaf mountain, being 40 miles distant. To the south-east the broad Potomac passes away from the foot of the Monument, and winds between its forest-clad shores far below Alexandria, while across the river are the heights of Arlington, looking like diminutive bluffs, and the cemeteries that now cover a large portion of the former home of General Lee. To the eastward, and a mile away, is the Capitol, with its surmounting dome, while all around the City of Washington is spread, like a toy town, its streets crossing as on a chess-board, and cut into gores and triangles by the broad diagonal avenues, the houses interspersed by many spaces covered with foliage. Carriages and people move about, and Pennsylvania-avenue gives a hum of busy traffic. From this elevated perch can be got an excellent idea of the town and its peculiarities; of the vast space taken up by the plan; the great, and in most cases unnecessary, width of streets and avenues; and the long stretches from one place to another. It is thus shown quite plainly why the Yankee nation, in their practical view of most matters, have popularly designated their national capital as the "City of Magnificent Distances."

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XVI.—FROM THE CAPITOL TO THE WHITE HOUSE.

There is a fine view from the western front of the Capitol in Washington for a great distance along Pennsylvania-avenue. This magnificent highway, 160ft. wide and as smooth as a floor, leads straight to the Treasury Building, its southern portico being seen afar off with the President's gardens behind. This is the chief street of Washington and is the route taken by every new President after his inauguration, when he is escorted from the Capitol, where he takes the oath, to his home at the Executive mansion, which is popularly known as the White House. This route represents the summit of American political ambition. The leading politicians usually get into Congress, and while attending its sessions at the Capitol most of them are striving to get translated to the White House "at the other end of the avenue." The Presidency is open to all men born within the States, and therefore every mother of a promising boy usually dreams of the day when he shall become a President. Hence from the Capitol to the White House is the political path in the States sought by many but travelled by few. In rare instances, and notably in the cases of Lincoln and Grant, Presidents were chosen who were not taken out of Congress, and the present President Cleveland never saw service there, but in most cases the Presidential candidates have learnt the

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arts of statesmanship in the Capitol. Many a prominent man sits in Congress to-day who, as the Americans say, has "the Presidential bee in his bonnet," and longs for the time when his party may find it necessary to call him to the highest post. Then, escorted by the troops and saluted by the populace, he may take the ride along the avenue that places him upon the people's throne in the great Republic.

In the crowds usually thronging Pennsylvania-avenue, especially during the Session, there are probably seen more notable men than in any other city of the States. Statesmen, diplomats, and strangers of distinction are always numerous in Washington, and it has a large floating population. Tourists come in numbers, but most of the visitors are Americans, drawn from all parts of the country, chiefly politicians or shrewd business men, each intent upon his own particular business, which in Yankee parlance is described as "grinding axes." Hence the pilgrims to the national shrine are usually intent upon their special occupations, and move vigorously about among the public offices, and this brings them constantly in review upon Pennsylvania-avenue. A few get what they are after, but the many are disappointed. The office and patronage seekers, however, never die, for new recruits are always ready to replace those who fall from the ranks, and while the population changes, yet its character and aspirations are always the same. The broad avenue has a double line of tram cars in the centre, and on either hand a smooth, wide carriage-way, Washington having the most cleanly kept and best-paved streets of all the American cities. The spacious sidewalks are generally shaded by trees, and are bordered by buildings usually commonplace, though some of recent construction

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are quite imposing. A large portion of the houses on Pennsylvania-avenue are lodging-places and restaurants, interspersed with many shops, for the numerous visitors have to be cared for. Many hotels are among these buildings, the chief ones being near the Treasury. The avenue crosses all the streets diagonally, thus cutting the lots into triangles, with various open spaces at the intersections that are availed of for little parks. The streets running east and west are lettered A, B, C, &c. Those running north and south are numbered, from First-street at the Capitol to Fifteenth-street at the Treasury. There is an exception, however, and the stranger who is accustomed to habits of numerical sequence meets a harsh interruption after crossing Third-street, for there is neither Fourth nor Fifth street, though midway between where they ought to be there is a street called "Four-and-a-Half-street." This was an arrangement interjected into the plan of Washington for the purpose of showing the ornamental colonnade fronting the District Court-house, a short distance north of the avenue. Behind this Court-house stands the new pension building, a large, barn-like structure, constructed around what might be called a covered quadrangle. This interior space is designed as a location for the "Inauguration Ball," which every four years is a great social event in Washington. The building itself is for the accommodation of the regiment of officials and clerks necessary to examine pension cases and keep pension accounts, this being now the heaviest item of payment from the American Exchequer, amounting to more than fifteen millions sterling annually. The house has been put up cheaply, and by no means compares architecturally with the other great public buildings. One unique feature indicates its uses. Running all around the walls, over the

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lower windows, is a broad band bearing in relief a marching column of troops, giving representations of every branch of the service.

Seventh-street crosses the avenue about midway between the Capitol and the Treasury, and has many business establishments. At this intersection is the large Centre-market which supplies the city with food. To the northward upon Seventh-street are two important department buildings. The General Post Office is a Corinthian structure, occupying an acre and a half, that cost £350,000. It is the headquarters of the American postal service and the office of the Postmaster-General. Behind it, to the northward, is the enormous building of the Department of the Interior, better known as the Patent Office. This is a grand Doric structure occupying two blocks, and embracing about three acres of buildings, the main entrance being a magnificent portico seen from Pennsylvania-avenue. This Department cares for various interests, such as Patents, the Indians, and the Land Office, and also supervises the Pension and Agricultural Bureaux. The larger portion of the great building is, however, occupied by the Model Room of the Patent Office, a museum of vast extent, showing every phase of Yankee ingenuity, and constantly increased by new inventions. Proceeding further westward along the avenue, beyond Seventh-street, we come among the theatres, and finally get into the region of the newspapers. Fourteenth-street north of Pennsylvania-avenue is known as "Newspaper-row," and the offices also overflow into adjacent streets. These are not Washington city newspapers, however, for the local Press at the capital is not very prominent. The "Newspaper-row" contains the Washington offices of all the great journals published in every

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part of the country, where their correspondents have their desks and prepare their telegrams. Every leading American newspaper, no matter how distant may be its city of publication, maintains a bureau in Washington, with a staff of experienced journalists, who transmit to the home office by telegraph all the news (and sometimes a good deal more) that transpires at the capital. This business is conducted upon an elaborate scale, the "Washington correspondents" holding high rank in journalism, and being recognized by all the departments of the Government as a guild who have proper duties to perform and rights that public officials should observe. These correspondents are also assigned regular desks in the Press galleries of Congress, and their work occupies prominent places in the pages of their home newspapers.

At Fifteenth-street the magnificent Ionic colonnade of the Treasury building interrupts the progress of Pennsylvania-avenue. The eastern front of this fine structure stretches nearly 500ft. along Fifteenth-street, and its grand colonnade, modelled from that of the Athenian Temple of Minerva, is 350ft. long. This building is 264ft. wide, and each end has an elaborate Ionic portico, while the western front, facing the enclosure around the White House, has a grand entrance in the centre, with side porticoes. The Treasury was the first of the great buildings constructed in Washington for a Government Department, and it cost about £1,200,000. It is the office of the most powerful Cabinet Minister, the Secretary of the Treasury, and contains the various branches of the Exchequer, controlling the Customs, Inland Revenue, and the National Banks. Within this building an extensive business is transacted, for it receives all the revenues and disburses all the public money. Over sixty millions sterling are annually received

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from revenues, and again paid out, besides great movements of bonds and currency in the banking departments. Unlike most other large countries, America spends but little on the army and navy, neither costing over six millions sterling annually. The Treasury of the States, however, is in some respects a much more extensive institution than the British Exchequer, for it governs the 3,000 banks of the country, prints all of the paper issues both of the greenback and bank currency, supervises the mints, lighthouses, and other departments, and manages an almost universal Customs tariff requiring an army of Civil servants to collect and protect the revenues, having its own fleet of armed vessels, independently of the navy to guard the coasts. In one vault there is held over sixty millions sterling of the national debt deposited by the banks as security for their circulating notes, this system keeping the notes at par everywhere, no matter how remote from the bank of issue, and each bank being required to hold at least £10,000 of the public loans. The Engraving and Printing Bureau of the Treasury has grown to such a large establishment that it is provided for in a new building of extensive proportions on the Mall near the Washington Monument. The Treasury held of various kinds of money when I visited it about £111,000,000, and against this it had outstanding obligations reducing its net available balance to about 40,000,000 sterling. The larger portion of the money held was gold to the amount of 55,000,000 sterling and 41,000,000 sterling of standard silver dollars (205,000,000 of them) though all of these are not kept in Washington, even the capacious vaults of the Treasury not having enough room. There were thus held about 508 tons weight of gold and 6,804 tons of silver; and if this money were all packed into a line of

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wagons, one ton to each, it would make a procession 21 miles long—a most interesting spectacle to any crowd that might like to develop communistic ideas.

The American Congress most strangely persists, in order to maintain a fictitious market for silver, in coining these standard silver dollars which cannot be got into circulation. Therefore, they have to be stored in the Treasury vaults, and are being packed away in every sub-treasury about the country, until all the vaults are now filled, and Congress has had to vote more money at the late Session to construct more vaults to hold them. I looked into one vault beneath the Treasury which held 82,000,000 of these non-circulating silver dollars. It was about 60ft. long and 25ft. wide and quite high, and the bags of dollars actually filled it to the doors. This vault occupies all the space beneath the cash room of the Treasury—a finely-ornamented hall, where the current money business is transacted, and which has adjoining another large vault, containing about 5,000,000 sterling in various kinds of money, used for the daily supply of the disbursing officers in the Cash Room. Many females are given employment in the Treasury, mainly at work connected with the issue and redemption of the paper money—a branch of business in which they become experts. All the uncurrent, defaced, and mutilated notes are sent to what is called the Redemption Bureau in Washington, and are examined and counted by the lady clerks. They are afterwards cancelled and reduced to paper pulp in a huge macerating machine, which daily cuts and grinds up hundreds of pounds' weight of these notes. In this way, by replacing the old and worn-out money with clean new notes, the circulating paper cur-

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rency of the States is kept in good condition. The Secret Service Bureau is another important branch, devoted to the detection of frauds on the revenues and the capture of counterfeiters. Some very clever captures have been made by its officers, and they show many ingenious counterfeits, being usually able to trace a new counterfeit to its makers soon after it appears. One, however, has long baffled the ingenuity of the shrewdest detectives. In 1879 there was sent from a bank to the Treasury a greenback note, which was a perfect imitation of a Government issue and yet was not actually a counterfeit. It was a twenty-dollar note that had been most carefully and skilfully made entirely by using pen and ink. As the most admirable imitation that had ever been made, the patience and ingenuity required to do this clever work challenged the highest admiration. At intervals afterwards other notes made in the same way have been discovered, and some 40 of them are known to exist. This expert penman—whether man or woman is unknown—has been working for eight years with a zeal and success worthy of a better cause, and is yet undetected. What a vast stock of patience, secrecy, and application this task must require!

The engraving and manufacture of the plates and the printing of the vast amounts of paper-money employ an army of workers at the Engraving and Printing Bureau. A large amount of work has constantly to be done, as it is necessary to renew and replace the various issues of greenbacks, national bank notes, and silver certificates, of which an amount equal to £160,000,000 is steadily in circulation. The United States bestows far more care upon the manufacture of a note than is customary in the Bank of England. The most elaborate workmanship in every depart-

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ment of the engraving and printing, as well as in the preparation of the fibrous paper, is relied upon as a protection against counterfeiting, and the engraved imitations now made are poor in comparison and very easily detected. Expert engravers make the originals of the plates, which are multiplied by transfers, and the geometrical lathe—an ingenious machine of complex construction—engraves intricate, yet mathematically accurate, designs which it is almost impossible to successfully counterfeit. The notes are ornamented with vignettes and portraits of exquisite finish, and the fibrous paper is exclusively used by the Government. The checks upon the printing to prevent fraud require nearly 50 separate processes and countings before the sheets of notes are ready to send from the printing office to the Treasury. The systems of protection are so perfect, and the honesty of the *employés* so universal, that fraud in the money departments of the Treasury is unknown. There are about 4,000 persons employed in the various branches of the Treasury building and its Printing Bureau, and their latest improvement in the way of advancing their material interests has been the formation by some of them of a "marriage assurance company." The membership is limited to 50, and each one agrees to contribute £20 when a member gets married, to give a snug fund for starting housekeeping. *A propos* of this subject, it is said that in a fashionable club of Washington an association has been formed by a dozen of the younger members for mutual aid in marrying heiresses. The members sign a contract agreeing to pay within a year after marriage one-tenth of the money and property secured by the alliance into a fund. Each pledges all his energy and influence to the common object, and when one begins a courtship, all the others set

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to work to make the financial wooing successful.

Upon the western side of the White House is the most splendid of all the Washington department buildings—the structure, not yet entirely completed, for the State, War, and Navy departments. It is built of granite in the Roman Doric style, four stories high, with Mansard and pavilion roofs and porticoes. This grand edifice covers a surface of 567 feet by 342 feet, and will have cost a million and a half sterling when finished. The Ambassadors' *salon* is its most elaborate apartment, and is the audience chamber of the Secretary of State, who occupies the adjoining Secretary's-hall—also a splendid room. The library is extensive, and is an admirable collection of nearly 40,000 volumes, largely upon international law. Beyond this magnificent structure, which furnishes palatial offices for three of the Cabinet Ministers, Pennsylvania-avenue resumes its course north-west, and finally goes across Rock-creek, which flows through a deep ravine that divides Washington from the older city of Georgetown. To the northward of the Executive mansion is a small park known as Lafayette-square, containing an equestrian statue of Andrew Jackson, who was one of the vigorous Presidents of the United States half a century ago. Westward from this square, and opposite the State Department, is the Corcoran Art Gallery, an attractive Renaissance building of brick and brown-stone, containing an elaborate collection of paintings, sculpture, bronzes, and *bric-à-brac*, and the most complete and valuable gallery of casts of famous statues in America. This was the private collection of William W. Corcoran, who gave it to the people, and provided for its support and improvement by an ample endowment.

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The venerable donor still lives in a comfortable mansion near Lafayette-square, at an advanced age, and enjoys the gratitude of this community, to whom he has been a benefactor in many ways. He was formerly the leading banker in Washington, the foundation of his fortune having been laid 40 years ago, when he had the pluck to take a Government loan which seemed to lack buyers. The modest building which was Corcoran's and is now "Rigg's Bank" faces the Treasury.

In the centre of the enclosure between the two great structures that accommodate the leading Cabinet Ministers, and standing within a park at some distance from the street, is the Executive mansion. A semi-circular driveway leads up to the colonnade supporting the portico. It is a plain building and without pretensions in anything but its occupancy. It is constructed of freestone painted white, and hence the popular name given it, the "White House." Around it are ornamental grounds stretching down to the Potomac River, which flows about 200 yards below the southern front. The enclosure on that side for the private gardens is about 20 acres. This famous house, the palace and official residence of the chief magistrate of the great Republic, is about 170ft. long and 86ft. deep, two stories high, with a stately portico enclosing the main entrance and driveway on the northern front, while in the centre of the southern front, with a lovely outlook to the river and beyond, is a curved Ionic colonnade over the broad flights of steps leading down to the gardens. The building was not got ready for occupancy until after the death of Washington, and it was burnt during the British invasion, being afterwards restored to its present condition about 70 years ago. It has in no sense grown with the nation or with the enormous public buildings that

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surround and dwarf it, but nevertheless it is a comfortable mansion, though rigid in its simplicity. The finest apartment is the "East Room," the parlour of the house, occupying the whole of that side, and kept open for visitors during most of the day. The public go in there by droves, walk over the carpets, and sit in the soft chairs, and await the President's coming for his daily reception and handshaking. This is an impressive room, and in earlier times was the scene of many inauguration feasts when Presidents kept open house. It was a famous entertainment hall in Jackson's time. On the night of his inauguration it was open to all comers, who were served with orange punch and lemonade. The crowds were large, and the punch was made in barrels, being brought in by the bucketful, the thirsty throng rushing after the waiters, upsetting the punch, and ruining dresses and carpets. The punch receptacles were finally removed to the gardens, and in this way the crowds were drawn off, and it was possible to serve cake and wine to the ladies. The elderly citizen still tells of this, and also of the monster cheese, as big as a hogshead, that was served at Jackson's farewell reception. It was cut with long saw blades, and each guest was given a pound of cheese, the event being the talk of the time. Jackson's successor was Martin Van Buren, and he came from New York, the land of big cheeses. He was bound to emulate the example, and an even huger cheese was sent him, and cut up in the East Room. The greasy crumbs were trampled into the carpets, and all the furniture and fittings were ruined. Now no guest comes to dine at the White House uninvited, but the change in the fashion aided to defeat Van Buren, who was a candidate for a second election in 1840. He had stopped keeping open house in order to save the furniture, and for months preced-

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ing the election many persons arrived at the White House for breakfast or dinner, and threatened to vote against Van Buren unless they were entertained. This, with the fact being noised abroad that he was so much of an aristocrat that his table service included gold spoons, then an unheard-of extravagance in the States, was too much for him. Van Buren was beaten by General Harrison, known as "Old Tippecanoe."

From the East Room a corridor leads westward through the centre of the house to the conservatories, which are prolonged beyond it further westward nearly 200ft. South of this corridor, and with their windows opening upon the gardens, are a series of fine apartments, known as the Green, Blue, and Red Rooms, from the prevailing colours in their decoration, and these open into each other, and finally into the State Dining-hall, on the western side of the house, which is flanked by a conservatory. The remainder of the first floor north of the corridor contains the family apartments. On the second floor are the sleeping apartments of the President and family and also the public offices. The Cabinet Room is about the centre of the house, a small apartment, where the Ministers gather at a long table. On one side of it is the President's private office, and on the other the apartments of his personal secretaries. The former is called the library, and in it the President sits at his desk for hours, with the southern sun streaming in at the window, chiefly listening with exemplary patience to the tales and pleadings of office-hunters and politicians, protected, however, to some extent by the watchful care of "Dan Lamont," his secretary, who acts as a sort of filter in the pressing stream of urgent visitors. The desk the President uses has

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a history of interest to all Englishmen. Years ago, after many hardships in the fruitless search for Sir John Franklin, the British ship Resolute had to be abandoned in the Arctic Ocean. A portion of her oaken timbers was afterwards taken back to England, and from these, by the Queen's command, the desk was made. She presented it to General Grant, and it has since been part of the White House furniture and the President's work-table. One of the adjacent chambers is known as the "Prince of Wales's Room," having been fitted up for him during his only American visit. It is furnished in crimson and gold, and adjoining is the bedroom where Garfield suffered. In these two apartments the greatest American Presidents always slept.

The accommodations for the President's family in the White House, however, are on such a contracted scale, that, strange as it may seem, he is almost unable to invite visitors beyond two or three, for want of sleeping apartments. Yet all effort to get a better house or in a healthier locality has failed. The ruler of so proud and wealthy a nation might be more generously provided. As it is, his dwelling is more than half a public office, for the people, as I have already said, flock into the East Room at will, and its worn and faded carpeting testify to the shuffling of many feet, while the torn window curtains demonstrate the stealthy energy of the relic-hunter. A large number, who can readily on various pretexts get permission, climb to the upper story, and bore the secretaries and often the President himself with their importunities, so that he has little comfort and not even privacy. Every day, when fagged-out with the persistence of the visitors above stairs, or fatigued by the almost overwhelming cares of his august office,

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the President seeks relief by coming down to the East Room to pass a few moments with the multitude. He feels secure from importunity there, and is not averse to gratifying the pardonable curiosity of the citizen who is desirous of seeing and briefly shaking hands with the chief magistrate. Hundreds wait for this audience, and he has a hearty grasp and kind word for all. President Cleveland is a sturdy, unassuming man, with a good face and pleasant ways, and this daily "handshake" has done much to popularize him with the visitors as well as the people of Washington. The ceremony, which is the only one bringing the ruler in direct contact with the people, is very simply done, without any show or guard of any sort, and with open doors to every one, all classes, high or humble, being received with equal affability.

XVII.—THE WASHINGTON SUBURBS AND MOUNT VERNON.

The American capital has attractive suburbs, particularly to the north and west. From the White House as a centre, various fine streets and avenues lead into the north-western section, which contains most of the newer and more elaborate residences. The prices of land in this favourite quarter have risen to high figures, for it is the location of the homes of most of the leading public men, and there are many costly dwellings bordering the attractive streets that make up this more modern part of the city. Wealth has become in an eminent degree a stepping-stone to Ame-

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rican honours, and this seems particularly the case in the attainment of seats in the United States Senate from certain of the States. The Washington streets are well paved, are kept very clean, and are usually bordered with rows of shade trees; while at the intersections are little circles and squares that are used for pretty parks, several containing statues of distinguished men. It is in this prized quarter that the broad brick building with brownstone facings has been built by England which is the home of Her Majesty's Minister and the office of the Legation, on Connecticut-avenue. When built by the late Minister, Sir Edward Thornton, it was thought to be almost out of town, while now the city has reached and passed it for a long distance. The town goes beyond, and gradually fades into the rural region, where vacant lots are numerous. Here, and in fact in most parts of Washington, away from the business and fashionable residential sections, one is struck by the indication that most of the land and houses are for sale. Huge signboards announcing this are seen all about the suburbs, and there would be little difficulty in buying eligible lots in these remote parts if enough money were offered. It is quite evident that in some localities the building of new houses has been pushed beyond the immediate necessities of the increased population, for almost the whole region appears to be offered to let or for sale. Northward of the city, upon Columbia Heights and beyond, the land steadily rises to an elevated plateau. Here is a Government park, covering nearly a square mile of rolling surface, and surrounding one of the noted rural retreats on the borders of the capital, the "Soldiers' Home." This is an asylum and hospital for superannuated and disabled soldiers of the Ame-

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rican army, devoted more especially to those who have served in the regulars. Amid lovely surroundings, the veterans are comfortably housed and cared for, and in the adjacent cemetery thousands of them have been buried. Upon the southern brow of the plateau, where a ridge is thrust out in a commanding situation, stands a noble statue of Lieutenant-General Winfield Scott, who for many years prior to the Civil War was the commander of the American army. He gazes intently over the lower ground to the city three miles away, with the lofty Capitol dome and Washington Monument rising to his level, while beyond them the broad and placid Potomac winds among its wooded shores, until lost amid the hills and forests far below Alexandria. It was to the "Soldiers' Home" that the Presidents formerly retired for their summer retreat, before President Grant established his "summer capital" at Long Branch. In one of the cottages adjacent to the larger buildings of the Home President Lincoln passed much time during his eventful administration. This is the most elevated spot near Washington, and overlooks a wide landscape, with smiling farms, city, and river, having the Virginia shores and wooded hills closing the distant view from the Heights of Arlington far southward.

The great Potomac river forms for a long distance the boundary between Maryland and Virginia. Its head waters rise among the Alleghanies, and it breaks through the Kittatinny range at Harper's Ferry, where it receives its principal tributary, the Shenandoah. Below Washington it gradually expands into an estuary, being two miles wide at Mount Vernon, and finally, becoming six to ten miles broad, falls into Chesapeake Bay after a course of about 400 miles. Washington is about 125 miles from its mouth, and the tide extends up

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to Georgetown, while it is navigable to the Washington wharves for the largest vessels. The most noted place on this great river below Washington is Mount Vernon, which was the home, and is the tomb, of George Washington. This estate is about 17 miles below the city, and is reached by a pleasant steamboat ride, being visited by many pilgrims from all parts of the world. The steamboat takes you past the well-kept grounds of the Government Arsenal, the river being broad, with shores sloping up into hills, that rise from 100ft. to 200ft., with long pile wharves stretching into the stream for boat landings. The old town of Alexandria is passed on the Virginia shore, formerly a place of considerable commercial importance; but now it is sleepy and falling into decay—a "finished American city" of about 10,000 people, who cherish many memories of Washington, who came into town frequently on business and attended church there. The wharves seem to be declining into dilapidation, the storehouses have broken windows, and negroes loll idly on the docks, where little goes on. A propeller, a ferry-boat, a couple of tugs, and a half-dozen smaller craft represented the active commerce of Alexandria. Its people, who live in rows of comfortable-looking brick houses, built on the gently ascending slope from the river, have a pretty view over the water at the greater city, stretching all across the scene, with the Washington Monument and the Capitol dome rising high above, these being the landmarks for all the country round. Back in the town is seen the modest little steeple of Christ Church, where Washington was a member of the parish vestry, while nearer the river is the "Carey House," with its yellow walls and dormer windows, where Washington, in 1755, received his first commission as aide to the British General

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Braddock with the rank of Major, just before the ill-starred expedition against the Indians in Western Pennsylvania. Below Alexandria, the Hunting Creek flows into the Potomac, this stream having given Washington's home its original name of the "Hunting Creek Estate." The opposite Maryland shore rises into steeper bluffs, and the winding banks close the view, so that the river seems like a succession of basins. Some of the projecting bluffs were used for fortifications, protecting the approach to the capital during the Civil War, and these are the first evidences met on our journey of that great conflict. The defensive works are abandoned now, and are mostly dismantled. Fort Foote is on an abrupt bluff below Washington, six miles down the river, and was an enclosed barbette. Fort Washington, further down, is a larger work, being an old-time stone fort on top of a steep bank about 80ft. above the river. This fort is without a garrison, but is quite well preserved, having been located there originally by Washington.

The first view of Mount Vernon is obtained when the steamboat leaves Fort Washington and crosses the river diagonally towards the landing, four miles below. The mansion-house is in full view, standing among the trees upon the top of a bluff rising about 200ft. above the river. As we approach, the steamboat bell is tolled, this being the universal custom on nearing or passing Washington's tomb. It had its origin in the reverence of a British officer, Commodore Gordon, who during the invasion of the American capital in August, 1814, sailed past Mount Vernon, and as a mark of respect for the dead hero had the bell of his ship, the Sea Horse, tolled. The "Hunting Creek Estate" was originally a domain of about 8,000 acres, and Augustine Washington, who died in

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1743, bequeathed it to Lawrence Washington, who, having served in the Spanish wars under Admiral Vernon, named it Mount Vernon in his honour. George Washington was born in 1732, in Westmoreland County, further down the Potomac, and when a boy lived near Fredericksburg, on the Rappahannock river. In 1752 he inherited Mount Vernon from Lawrence, and after his death the estate passed by bequest to his nephew, Bushrod Washington, subsequently descending to other members of the family. Congress made repeated efforts to have Washington's remains removed to the crypt under the Rotunda of the Capitol, which had been originally constructed for their reception; but the family steadfastly refused, knowing that it was his earnest desire to rest at Mount Vernon. The remains were, however, removed about 50 years ago to a more secure tomb than the place of original interment. Subsequently, the grounds and buildings at Mount Vernon being in danger of falling into dilapidation, and the place passing under the control of strangers, a patriotic movement was begun throughout the country for the purchase of the portion of the estate containing the tomb and mansion. The Virginia Legislature passed a law in 1856 authorizing the sale, and under the auspices of a corps of energetic ladies, who formed the "Mount Vernon Association," ably assisted by the oratorical efforts of the late Edward Everett, who traversed the country making a special plea for help, the money was raised by which a tract of 200 acres was bought for £40,000. These ladies and their successors have since had charge of the estate, have restored and beautified it, and it is now faithfully preserved as a patriotic heritage and place of pilgrimage for the nation and for visitors from all parts of the world. A stock farm and fruit orchard are maintained, but the chief

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source of support is a fee of about 1s. 6d. for admission, all the revenues being devoted to the restoration and improvement of the estate, which is kept in excellent condition.

The steamboat makes its landing at Washington's Wharf, which has been rebuilt, and projects a short distance into the river at the foot of the bluff. This was the place where he formerly loaded his barges with flour ground at his own mill, shipping the most of it from Alexandria to the West Indies. A road from the wharf leads up a ravine cut diagonally in the face of the bluff directly to Washington's tomb, and alongside the ravine have been planted several weeping willows that were brought from Napoleon's grave at St. Helena. Washington's will directed that his tomb "shall be built of brick," and it is a plain square brick structure, with a wide arched gateway in front and double iron gates. Above is the inscription, on a marble slab, "Within this enclosure rest the remains of General George Washington." The vault is about 12ft. square, and the interior is plainly seen through the gates. It has upon the floor two large stone coffins, that on the right hand containing Washington, and that on the left his widow Martha, who survived him over a year. In a closed vault at the rear are the remains of numerous relatives, while in front of the tomb are monuments erected to several of them. No monument marks the hero, and carved upon his coffin is the American coat of arms with the single word "Washington." Near the tomb a young and sturdy elm grows, which was planted there in 1876 by Dom Pedro, Emperor of Brazil. Almost in front of the tomb, in a small grassy mound, standing alone, there was planted a tree in 1860 by the Prince of Wales when on his American visit. It

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has died, but the spot is marked, and it would be a graceful act were Her Majesty's Government to take some measure to renew this mark of respect to the memory of Washington.

The original tomb, where the great man's remains were laid for over 30 years after his death, is out on the brow of the bluff, and not far away from the mansion, being in plain view from its southern windows. Here is the old tombstone, antedating Washington and bearing the words "Washington Family," which had been carried away, but was discovered not long ago and restored. It is a plain granite block about 3ft. long. This was the tomb, then containing the remains, that Lafayette visited in 1824, being escorted by a military guard from Alexandria to Mount Vernon, when he paid homage to the ashes of the dead amid salvoes of cannon reverberating across the broad Potomac. It is a round-topped and slightly-elevated vault, built like an oven, and is now in process of restoration. The road passes it, and ascending further to the top of the bluff reaches the mansion, which stands in a commanding position, with a grand view over the river and the opposite Maryland shore. The mansion is a long wooden house, with an ample porch facing the river. It is constructed with severe simplicity, is two storeys high, and contains 18 rooms, with a small surmounting cupola for a look-out place. The central portion is the original house, built by Lawrence Washington, who called it his "villa," and afterwards George Washington extended it by placing two large square buildings as wings, one at each end, and when this improvement was added, he gave it the more dignified title of the "mansion." The entire structure is 96ft. long and 30ft. wide, the porch which extends

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along the whole of the front, being 15ft. wide, and having its top even with the roof, so as to cover the windows of both stories. There are eight large square wooden columns supporting this porch. Behind the house, on either side, curved colonnades lead to the kitchens, with other outbuildings beyond. Alongside the road leading up to the mansion from the tomb are several farm buildings, including a substantial brick stable and barn, the bricks of which it is built having been brought out from England about the time Washington was born. They were readily carried in those days as ballast in the vessels that came from England for the Virginia tobacco. The front of the mansion faces the east, and it has within a central hall, with apartments on either hand. Upon the wall of this hall, just at the foot of the stairway ascending to the upper story, is fastened a small glass casket, shaped much like a lantern, and this contains the most valuable relic in the house—the key of the Bastille, which was sent to Washington as a gift from Lafayette, shortly after the destruction of the noted prison in 1789. This is the key of the main entrance, the Porte St. Antoine, an old iron key with a large handle of peculiar form. This gift was highly prized at Mount Vernon, and in sending it Lafayette wrote, "It is a tribute which I owe as a son to my adopted father; as an aide-de-camp to my general; as a missionary of liberty to its patriarch." The key was confided to Thomas Paine for transmission, and he sent it by the hands of another, together with a model and drawing of the Bastille. In sending it to Washington, Paine said, "That the principles of America opened the Bastille is not to be doubted, and, therefore, the key comes to the right place." The model, which was cut from the granite stones of the demolished prison, and the drawing, which

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gives a plan of the interior and its approaches, are also carefully preserved in the house.

As may naturally be supposed, this interesting building is filled with Washington relics—with portraits, busts, old furniture, swords, pistols and other weapons, camp equipage, uniforms, clothing, books, autographs, and musical instruments, including the old harpsichord which President Washington ordered for £200 in London, as a bridal present for his wife's daughter (whom he adopted), Eleanor Parke Custis. There is also an old armchair which came over with the Massachusetts Pilgrim Fathers in the ship Mayflower in 1620. Each apartment in the house is named for a State of the American Union, and is cared for by one of the Lady Regents of the Association. In the banquet-hall, which is one of the extensions Washington added, is an elaborately-carved mantel of Carrara marble, which was sent him at the time of building by an English admirer, Samuel Vaughan. It was wrought in Italy and shipped thence, and the tale is told that on the voyage the mantel fell into the hands of pirates, who, upon learning it was intended for the great American Washington, sent it along without ransom and uninjured. Rembrandt Peale's equestrian portrait of Washington with his Generals covers almost the entire end of this hall. The upper floor of the mansion is divided into a number of chambers, chief among them being the room in the southern end of the building where Washington died. The bed on which he expired and every article of furniture are preserved, including his secretary and writing desk, toilet boxes and dressing stand. Just above this chamber, under the peaked roof, is the room in which his widow died, but it contains very little of the original furniture. Not wishing to occupy the lower room after her

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husband's death, she selected this one, because its dormer window gave a view of his tomb. The lawns and gardens are behind the house, with an extensive conservatory of modern construction, the original one having been burnt down about 50 years ago. These are all well kept, and the ladies who have taken charge of the place deserve great credit for their energetic restoration. As one walks through the mansion and about the grounds solemn and impressive thoughts arise that are appropriate to this American Mecca. From the little wooden cupola surmounting the house there is had the same view over the broad Potomac upon which Washington so often gazed. The noble river, two miles wide, seems almost to surround the estate with its majestic curve, as it flows between the wooded shores. Above Mount Vernon is the projecting bluff which Fort Washington surmounts on the opposite shore, hardly seeming four miles away it is visible so clearly across the water. In front are the Maryland hills, while the river flows down to the southward, its broad reaches being seen afar off. Behind the mansion, to the westward, are the forest-covered hills of the sacred soil of the proud State of Virginia. Beyond the outbuildings and the lawn stretches the carriage road, which in Washington's time was the main entrance, off to the porter's lodge at the boundary of the present estate, about three-quarters of a mile away. Everything is quiet and in the thorough repose befitting such a great man's tomb; and this is the modest mansion on the banks of the Potomac that was the home of the noblest character known in America.

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XVIII.—FROM THE POTOMAC RIVER TO THE JAMES.

The railway from Washington to the South crosses the Potomac river by the "Long Bridge," the train passing in full view of Arlington-house on the southern bank. This is a yellow building fronted by a columned porch, not very pretentious to look at, but having a fine position on Arlington Heights, a bluff bordering the river. It was in his early life the home of General Robert E. Lee, the Confederate commander during the Civil War, whose memory, with that of Stonewall Jackson, receives the greatest homage from the present generation of Virginians. The Arlington estate is now a vast cemetery, over 15,000 graves being on the plateau that spreads back from the bluff, a grim memorial of the war. The railway having crossed into Virginia passes through the sleepy town of Alexandria, and then southward near the Potomac for a long distance, winding among hills and forest, and crossing various broad creeks and bayous that are branches of the great river. Then, finally leaving the Potomac, the route diverges towards the Rappahannock river, and, beyond it, passes along the border of the "Wilderness," an unattractive and barren, but historically noted, portion of Eastern Virginia, where several of the most sanguinary conflicts of the war were fought in 1863-4. We crossed the narrow and pretty Rappahannock at the quaint old town of Fredericksburg. The cemeteries that terrace the hillsides—one for each army—tell of the terrible battles

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fought near by in December, 1862, and the later one of May, 1863, at Chancellorsville, when Jackson lost his life. The town is small, but has pleasant surroundings and considerable trade with the farmers of the Rappahannock valley. The "Wilderness" to the southward adjoins the Rapidan, and covers about 200 square miles, being a plateau sloping to cultivated lowlands on every side. The original forests were long since cut off for fuel for adjacent iron furnaces, and a dense growth of scrub timber and brambles covers nearly the whole surface, with an occasional patch of woods or a clearing. Chancellorsville was fought on the eastern border of this tract in May, 1863, and Mine Run, on its western border, in November; while in the spring of 1864 Grant and Lee manœuvred for weeks through it in the "battles of the Wilderness," when, in almost continuous conflicts during the month of May, the most sanguinary battles of the great contest, the losses of the two armies exceeded 60,000. The railway passes over these battlefields.

Twelve miles south of Fredericksburg, at Guinea Station, is the house where Jackson died, a blow from which the Confederacy was never able to recover, and which it felt the worse as he was accidentally shot by his own men. Just after the battle of Chancellorsville, wherein the Confederates had turned the flank of the Union army, and Jackson had bent them back and cut them off from the main body behind Fredericksburg, he and his aides, after reconnoitring, returned within the Confederate lines, and the pickets, mistaking them for the enemy, fired into the party. Several of the escort were killed, and Jackson was shot in three places. Being put upon a litter, one of the bearers stumbled, and Jackson was thrown to the ground. His arm was amputated, but afterwards

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pneumonia set in, which was the immediate cause of his death. He lingered a week, and died May 10, 1863, in his 40th year, his last words, dreamily spoken, being, "Let us cross over the river and rest under the shade of the trees." He had been in command of two-thirds of the Confederate force in the battle, and it is said that this great loss of his ablest lieutenant had such an effect upon General Lee that he afterwards aged rapidly and his hair quickly whitened. Jackson's body, after lying in state in the Confederate Capitol at Richmond, was interred at Lexington, Virginia, where he had been an instructor in the Virginia Military Academy. His death was the turning point of the Civil War.

The train moves swiftly over the poorly-cultivated soil through a thinly-peopled region, that shows scant evidence of skilful farming. The residents of this section say there is no money in their country, and little of anything else. We have got into the land of the omnipresent "darkey," and pass the little settlements where the negroes are sunning themselves alongside the fences and cabins as they watch the train go by. The coloured race manage to enjoy themselves under all circumstances, however, and at the same time they take care not to work too hard. A few cattle are seen, but almost the only animals visible are the swift-footed and hungry-looking "razor-backed" hogs, that dart among the scrub timber in search of a precarious living. The white men of this region are usually ardent politicians, and they seem to have more success in argument than in planting. They assemble in crowds at the "grocery" at the cross-roads to discuss statecraft and "sample" the liquids. The buildings that flit by us as the train moves along—save the mansion of some old homestead that has survived

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the ruin of the war—are usually most primitive. This is the section where the house commonly seen is a small wooden cabin set alongside a huge brick chimney. They are said to first build the chimney, and then, if the draught is all right, they build the little cabin over against it and move in the family. These sparsely-cultivated and worn-out lands cannot sustain much extravagance in house architecture. As Richmond is approached, however, the character of the country and of the agriculture improves, and this region has been known to raise good crops. At Hanover are more signs of battles, and at Ashland, about 16 miles north of Richmond, attractive houses border the line, this being a favourite place of suburban residence. Ashland was the birthplace of the original American Protectionist apostle, Henry Clay, and southward of it the railway quickly brings us to the valley of the James river and among the red soils and brick houses of Richmond, named, from the similarity of situation, after Richmond on the Thames.

Few cities have a more delightful situation than the capital of Virginia. The James river flows round a grand curve from the north-east to south, pouring over falls and rapids, with myriads of little cascades among a maze of diminutive islands. Two or three large hills and several smaller ones rise upon the river's northern bank, and upon and between these eminences Richmond is built, like Rome upon her seven hills. The venerable Virginia State Capitol and the broad white Penitentiary crown two of the most prominent elevations. This situation gives the streets a variety of hill and vale, toilsome for locomotion but excellent for drainage, and from the higher grounds there are magnificent views. Richmond, as the capital of the Southern Confederacy, was besieged

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at intervals for three years, and the strenuous efforts made by the North to capture it, with the strong Southern defence, gave the city world-wide fame. Between 1862 and 1865 it was made an impregnable fortress, and the final evacuation and capture resulted from the fall of Petersburg, 23 miles southward, and the surrender of General Lee, who had retreated westward to the noted apple-tree of Appomattox. When Lee abandoned Petersburg there was a panic in Richmond, and the disorder rose to riot and pillage. The bridges were burnt and the great storehouses and mills fired, nearly one-third of the city being destroyed, causing losses reaching three millions sterling. The city, however, has since been rebuilt in better style, and it now has a thriving population of about 80,000, who conduct extensive manufactures and have a large and profitable trade. The centre of Richmond is a park of about eight acres, surrounding the Virginia State Capitol, upon the summit of Shockoe-hill. This is the most conspicuous building in the city, and occupies a very prominent position. It was built just after the American Revolution, being at that time the most noted structure in the country, the plan having been brought from France by Thomas Jefferson, and modelled after the ancient Roman temple of the *Maison-Carrée* at Nismes. The front is a fine Ionic portico, and from the roof, which is elevated far above the surrounding buildings, there is a beautiful view over the city. The James river, which comes from the south-west, makes a grand sweep among the islands and rapids round to the south, with numerous bridges spanning it, and then disappears among the hills, far away behind Drewry's bluff, on its onward flow towards the Atlantic. The square block plan of the city, with the streets all crossing at right angles, is mapped

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out, and the abrupt sides of some of the hills where they have been cut away disclose the high-coloured, reddish-yellow soil which has been so prolific in growing tobacco in the past, and now aids in giving brilliant hues to the scene. The buildings of Richmond are spread over a wide surface to the east and west, along the bank of the river and upon and among the hills to the northward for a considerable distance, with numerous church steeples rising high above their roofs. To the north-west the land rises somewhat higher, and there are the water reservoirs, while upon the lower lands southward across the James the spreading city has overflowed into populous suburbs.

This Capitol building was the meeting-place of the Congress of the late Southern Confederacy, and the locality of almost all the statecraft of the "Lost Cause" in that great conflict. It contains the battle-flags of Virginia regiments and other relics, with portraits of all the Virginia Governors, and also of the three leading Confederate military chieftains, Lee, Johnston, and Jackson. A gallery built around the upper portion of its rotunda is used for displaying these portraits, while upon the floor below is Houdon's well-known statue of Washington, made while he was yet alive. The famous French sculptor, in 1785, accompanied Franklin to the United States to prepare the model for this statue, which had been ordered by the Virginia Government. He spent two weeks at Mount Vernon with Washington, during which time he took a cast of Washington's face, head, and upper part of the body and minute measurements of his person, and then returned to Paris. The statue was finished in 1788, and is regarded as the most accurate reproduction of Washington in existence. The Virginia Legis-

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lature now meets in the Capitol, and the presence of the law-makers of the great tobacco-growing State is attested by the generous supply of cuspidors scattered about the halls and the rotunda, and by the signs which are conspicuously displayed on the walls, requesting moderation in smoking and "Please don't spit on the floor." Henry Clay's statue and Lafayette's bust are also in the rotunda, while upon the esplanade north of the Capitol is the most splendid memorial of the "Father of his Country," Crawford's bronze equestrian statue of Washington, upon a high and massive granite pedestal. This is one of the finest bronzes in existence. The horse is half-thrown upon his haunches, giving the statue exceeding spirit, while upon smaller pedestals around stand six heroic statues in bronze of Virginia statesmen of the colonial and revolutionary period, the whole being adorned with appropriate emblems. The cost of this masterpiece to Virginia was £52,000, and it is universally admired. Not far away, and at the centre of the esplanade, is the late Mr. Foley's bronze statue of Stonewall Jackson, sent from London in 1875 by Mr. A. J. B. Beresford-Hope and other English admirers of that great commander as a gift to the State of Virginia. It is a striking reproduction of Jackson, of heroic size, and stands upon a pedestal of Virginia granite bearing this inscription:—"Presented by English gentlemen as a tribute of admiration for the soldier and patriot, Thomas J. Jackson, and gratefully accepted by Virginia in the name of the Southern people." Beneath is the remark that gave the General his sobriquet, which was made at the first battle of Bull Run in July, 1861, where Jackson commanded a brigade. At a time when the day was apparently lost his brigade made so firm a stand that some one in

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admiration cried out the words that have become immortal, and they are here reproduced in the granite :—" Look, there is Jackson standing like a stone wall." While the Virginians in so many ways honour the memory of their chieftains in the Civil War, there still is evidence that the people desire to forget the animosities then engendered and to unite together for the common welfare. Upon a building facing the Capitol-park I saw the inscription "United Veterans'-hall—Blue and Gray." Thus are the once hostile uniforms mixing in an apparently successful effort to shake hands across the bloody chasm. It represents a beneficial organization, whose membership embraces former soldiers of both armies. The Virginia Governor's house adjoins the park, and is now occupied by General FitzHugh Lee. A short distance away is the "Confederate White House," a square dwelling with high porch on its rear, and a small portico in front, built of brick, but painted to resemble stone. Here lived Jefferson Davis during the short and eventful career of his Government, and after the grand collapse it was the headquarters of the military commanders who ruled Virginia for the United States during the Reconstruction period. Its present use is the less pretentious but better one of a school house.

The James river was the original source of the location of Richmond, and is the present channel of its wealth. The city stands at the head of navigation, for the stream in a distance of nine miles has a descent of 116ft., and furnishes a magnificent water power, employed for extensive manufacturing. Great ironworks and flour mills border the James in the upper part of the city, while below are the wharves and shipping, and adjacent to them the huge tobacco storehouses and factories. This tobacco traffic is the life of

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Richmond, for its chief tobacco mart of the world, receiving and distributing most of the product of the rich soils of Virginia, Kentucky, and Carolina. The pungent odour generally pervades the town, for whichever way the breezes blow they waft the perfume from some tobacco factory. The business centre is the Tobacco Exchange, and the traffic is of large amount and the first importance. Several important railways and steamship lines compete for the trade of Richmond, and it has become one of the most vigorous cities of the South, having more than repaired all the misfortunes of the Civil War, besides profiting vastly from the influx of Northern capital and the arrival of business men from the North. It is constructing a magnificent new City-hall adjacent to the Capitol-park, which, when completed, will be its finest building.

Richmond possesses some memorials that refer to earlier times than the Civil War or even the period of the Revolution. Its "first house" is an object of homage by the people—a low, steep-roofed stone cabin on the main-street, said to have been there when the town site was laid out in 1797. The visitor is introduced to this as the earliest and, therefore, most important landmark, the "Old Stone House." So little is known of its origin that much has to be imagined, and the diminutive, solemn-faced "darkey" who shows one about it has convinced himself that long before Richmond was thought of it was the residence of that redoubtable Virginian, old King Powhatan, who had so much to do with the early history of the "Old Dominion." The little fellow tells us—"King Po'tan, he built dis house tree hunderd yeer ago." On the wall hangs an ancient and remarkable print, representing Powhatan presiding at the execution of Captain John

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Smith, and to this the boy points in testimony. The magnanimous savage sits on one side of the picture, while from the other the youthful Pocahontas, in rather scant costume, has rushed in and laid her head upon Smith's, which had already been laid upon the block, ready to be chopped off by a bloodthirsty brave who stands alongside with a murderous-looking axe, evidently (in the picture) of British manufacture. According to all the rules of romance Pocahontas should have forthwith married Smith, but she did not, and afterwards wedded the Englishman Rolfe, was baptized at Jamestown, and lived at Varina, just below Dutch Gap, on the river. The "Baptism of Pocahontas" is the subject of one of the great national paintings in the Capitol at Washington. This old stone house, while not of Indian origin, is unquestionably the oldest building of Richmond, and is believed to have been built in the early part of the last century by one of the first colonists on the Upper James, old Jacob Ege.

Not far away from this ancient building, in the eastern section of the city, rise two more of Richmond's seven hills—Richmond or Church-hill, and Libby-hill. On the summit of the former stands St. John's Church, among the old gravestones in a spacious churchyard. It is a little wooden edifice, with a small steeple. It was here that the first Virginia Convention was held in 1775, which listened to Patrick Henry's impassioned speech that sounded the keynote of the American Revolution—"Give me liberty or give me death." The pew in which he stood while speaking is still preserved, though the pulpit has been removed from its former position, the church having been afterwards enlarged. On the top of the adjoining hill, which is nearer the river, lived Luther Libby, who owned most of the land thereabout, and hence it

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was called Libby-hill. This eminence, rising with steep sides on the south and east, overlooks all of the lower portions of Richmond, with the wharves and vessels at Rocketts, as that section is called, and also gives a fine view of the James river, with its rocky islets and rapids, its five bridges, the broad stretch of level lands to the southward, and the stream flowing far away until lost among the hills. From this, as from all the other elevated grounds, can be seen the Capitol to the westward, crowning the central eminence of the city. Also from here, nestling among the trees, can be seen the locality on the river bank, just below the edge of the city, which was the home of Powhatan. Here his tribe pitched their wigwams, and here originated much of Virginia's legendary lore. The name of the place was then, as now, Powhatan, and this chief, who was originally named Wahunsonacock, assumed the name of his home, as his power grew, for he raised himself to the command of no less than 30 tribes, and ruled all the land from far south of the James across the Potomac to Chesapeake Bay. Few men have been great heroes in Virginia, but Powhatan was probably the first one, succeeded by Washington and Jefferson, and later by Jackson and Lee. In the central part of Richmond, in the fashionable residential quarter, at No. 707, Franklin-street, is the plain brick house that was the home during the Civil War of General Robert E. Lee. It is related that after the surrender at Appomattox, when Lee returned to this house, the people of Richmond got an idea that he was suffering from privations and that his family were in want of the necessaries of life. Governor FitzHugh Lee says the people of Richmond then vied with each other in sending him everything imaginable. So generous were the gifts that the upper passages of the

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house were filled with barrels of flour, meats, and many other things, and the supplies became so bountiful that General Lee directed their distribution among the poor.

Turning to the westward, Gamble-hill, another of the seven, rises high above the rapids of the James, and the railway that comes down from the northward from Washington gets an entrance to Richmond by tunnelling under this hill. At its base spreads out the great Tredegar Ironworks, the chief iron and steel factory of the South, which made for the Confederates cannon, shot, and shell during the Civil War, and also the armour-plates for their war-ships. This hill overlooks the James river and Kanawha canal, stretching far westward upon the river-bank, alongside which the torrent roars and foams through the rapids. Above, in midstream, is Belle Isle, a broad flat island, which during the war was a place of confinement for Unionist prisoners, and is now the seat of a flourishing nail mill, the clouds of smoke and steam from which indicate a prosperous trade. Further westward Franklin-street leads through the fashionable quarter and past Monroe Park, fine residences bordering it where the millionaire tobacco merchants and ironmasters live, and beyond this is Hollywood Cemetery, in a lovely position on the river-bank. The natural beauties of the locality add to its own charms of hill and vale, the terraced sides of its ravines being occupied by mausoleums and burial lots, while in front the rushing river rapids roar a requiem for the dead. Cedars and magnolias above and shrubbery and flowers below overhang the graves, making it one of the most beautiful burial-places in the States. The cemetery only covers about eighty acres, and in it are interred many noted Americans. On President's-hill, overlooking the river, is a circular

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plot, with the grave in the centre, under an elaborate monument, of President James Monroe, who held the office 70 years ago. Among the graves in the surrounding circle is that of President John Tyler, who ruled 45 years ago, and was the last of the Virginian Presidents, the "Old Dominion" having provided five of the American rulers. There is not a mark upon Tyler's grave, although his daughter buried near by has for a monument a beautiful marble figure of the Virgin. Here are buried Lieutenant-General A. P. Hill, one of the great Confederate chieftains, also in an unmarked grave; J. E. B. Stuart, the dashing cavalryman; and General George E. Pickett, the daring leader of the Confederate charge by the Virginia Division at the battle of Gettysburg. The eccentric John Randolph, of Roanoke, sleeps here, and also Commodore Maury, the navigator; Henry A. Wise, who was governor of Virginia when she went into secession; and Editor Thomas Ritchie, of the *Richmond Enginer*, who in his day, half-a-century ago, was a most powerful Southern politician, and is regarded in Virginia as the "Father of the Democratic party," which so long ruled the States anterior to the Civil War. As one wanders among the noted graves of Hollywood there are many charming views over town and river.

Beyond this attractive cemetery are the higher grounds occupied by the water reservoirs and an extensive region of farms and market gardens, where much good agriculture is displayed. In this part is one of the finest buildings of modern Richmond, the Baptist College, with its ornamental mansard roofs and pavilion tops. Not far away is the African Home, also a handsome structure. As nearly one-half the population of the city is made up of the negro race, it is gratifying to find that elaborate arrangements are provided

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for their education. The younger generation of the coloured people are given the same school advantages as the whites, and it is their own fault if these are not well employed. It is to the great credit of the Virginian negroes that they show the liveliest attachment for their homes, preferring to live amid the scenes of their birth, though it may be in poverty, rather than wander away in search of better fortune. Around Richmond these negroes are now cultivating the fields and gardens in much the same style as "befo' de wah," a period when, according to the roseate tales now told by whites and blacks alike, the South is reputed to have been a veritable Elysium. The negro women and children gather the garden fruits and vegetables, and the sable head of the household hitches up his primitive donkey-cart as of yore to haul the produce into town for a market. They seem happy and contented; glad, like every one else in the Southern country, that the war is over; grateful for any kindness done them; respectful, and generally obedient. Almost the only changes in their actual condition from what it was in the days of slavery are the privilege they now have of hiring for whatever labour they prefer and the right of voting. The former gives them a liberty usually involving heavier tasks and often a more precarious subsistence. In reference to the latter, it is doubtful whether, even at this late day, the negroes of the South as a class fully comprehend the responsibilities of suffrage and the entire duty of their citizenship.

XIX.—THE GREAT THEATRE OF THE AMERICAN CIVIL WAR.

The chief memory of the late Confederate capital for all time to come will be of the Civil

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War, when for three years battles raged around it. Adjoining the central Capitol Park stands St. Paul's Episcopal Church. It was here that Jefferson Davis was attending Divine service on that eventful Sunday morning in April, 1865, when he was brought the fateful telegram from General Lee which said that Richmond must be immediately evacuated. Almost all the present parks of Richmond were then the sites of Confederate army hospitals or cemeteries. All of its great highways lead out to battlefields, and most of them in the suburbs are bordered with the graves of the dead of both armies. In Hollywood Cemetery are crowded together 12,000 graves of Confederate soldiers, marked originally with little wooden posts, numbered to give a clue to the occupants, but now fast rotting and disappearing. In the centre of this ghastly plot there rises a huge stone pyramid 90ft. high, erected by the Southern women as a memorial for the acres of dead around it. Vines overrun it, whose foliage half conceals the rough joints of the stones. It bears no man's name, for it was built as a monument to the unnamed Confederate dead. On one side is the inscription, "Memoria in Æterna;" on another "Numini et Patriæ asto;" and on a third, "To the Confederate dead." The bodies were brought here and buried in rows, as they fell on the adjacent battlefields, or as they died in the hospitals. During one urgent and terrible season time was not given to prepare separate graves, and the bodies were interred on the hillside in long trenches. This sombre pyramid, with its surroundings, is one of the startling memorials of the war. If the visitor ascends any of the hills of Richmond he can see other grim memorials, either in cemeteries outside the town or varied indications within it. The summit of Richmond or Church

hill was at that time a vast hospital, and has now been made a park. The site of another extensive hospital is now Monroe Park, named from President Monroe. On all sides but the north the outlook from Richmond is upon cemeteries, and all around the compass it is upon battlefields. From the top of Libby-hill the route can be seen by which the swift-moving Union troops, after that fatal Sunday in 1865, advanced over the level lands from Petersburg towards the burning city. The bridges across the James were burnt, and acres of buildings in the business section were in flames, when they came to the river bank and found that the greater portion of the affrighted inhabitants had fled. The Yankees quickly laid a pontoon bridge over the James, crossed to the foot of Shockoe-hill, rushed up to the Capitol, and raised the Union "Stars and Stripes" upon its roof, replacing the Confederate "Stars and Bars." Then with true Yankee thrift they set to work and put out the fires that were devouring the almost deserted city. Probably this capture and the close of the war which speedily followed, though they came through a baptism of blood and fire, were the best things that ever happened for Richmond, as they inspired the people with renewed life and business energy.

From Libby-hill one also looks down upon another of the noted relics of the Civil War, the old "Libby Prison." It stands to-day in much the same condition as then, down by the waterside—a capacious storage warehouse, four stories high, with strong walls, many windows, and slanting roofs, and built almost square, with walls of rough bricks. It was originally occupied by Libby and Co., chiefly for the storage of tobacco awaiting shipment, and since the war it has gone back to trade uses, being now a fertilizer manufac-

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tory. This old prison is usually one of the first places visited by the Northern pilgrims, for during the war it was the abiding place of a multitude, over 50,000 prisoners having crossed its threshold. All Northern prisoners captured were first taken to Libby, the commissioned officers being confined there, while the private soldiers were afterwards sent to Belle Isle, Andersonville, or elsewhere in the interior of the Confederacy. Many are the tales of hardship and suffering told of Libby, and the guards, who lived in tents outside the building, were frequently accused of brutality. The most noted event in the history of this prison was the boring of the tunnel through the eastern wall, by which 109 of the prisoners, led by Colonel Streight, in February, 1864, managed to escape into an adjoining stable and storehouse, and though more than half of them were recaptured, the others got safely out of Richmond and into the Union lines. The making of tobacco fertilizers is to-day briskly conducted in the old warehouse, but this odorous occupation is much less romantic than its earlier history.

The environs of Richmond still show abundant traces of the forts, redoubts, and long lines of earthworks by which the Confederate capital was so long and so gallantly defended. The Northern troops moved against the city at various times from different directions, and the greatest amount of effort and the heaviest expenditure of life and treasure during the great American war was that devoted to Richmond's environment and capture. The first important movement directly against the city was made by M'Clellan's invasion and siege in the spring and summer of 1862. The earliest attack was by the Union gunboats in May of that year against the batteries defending Drewry's Bluff, on the James river, seven miles below the

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town. The defensive works were so strong, however, that very little impression was made, but enough was learnt to prevent any subsequent naval attack at that place. The forts still exist behind the fringe of trees veiling them on the brow of the bluff. This attack had been made simultaneously with M'Clellan's advance with his land forces up the peninsula between the York and James rivers from the Chesapeake, when, by successive stages, he came to the east of Richmond, and extended his lines around to the north, enveloping the city on those sides upon a line stretching in the arc of a circle, from about seven miles east to five miles north of Richmond. This line crossed the swamps adjoining the Chickahominy river, an affluent of the James, which flows through a broad depression in the adjacent table lands, and is bordered by meadows, fens, and thickets of underbrush, traversed by a few wretched and narrow roads. The Chickahominy thus divided M'Clellan's right and left wings, and the first great battle near Richmond was begun by the Confederates, who hastened to take advantage of a heavy rain late in May, which had swollen the river, filled up the swamps, and overflowed the meadows. They fell upon the left wing of the Unionists on May 31, and the result was the terrible battle of Seven Pines or Fair Oaks, in which the losses were 10,000 men. It was an indecisive contest fought south of the Chickahominy, in which General Joseph E. Johnston, the Confederate commander, was badly wounded, and General Lee, succeeding him, continued in command until the close of the war. The battlefield was among morasses and thickets, and extensive cemeteries now mark the place. During June the hot summer suns and the malaria of the swamps where M'Clellan's troops were encamped filled the

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hospitals with fewer cases, and he was forced to move the greater portion of his army to higher ground north of the Chickahominy, where he erected protective works. There still exist memorials of these intrenchments and of the formidable ranges of opposing Confederate works upon the southern bank of the river.

There soon followed the most brilliant Confederate movement of the Civil War. General Lee, having taken command, had got his army well in hand, and Stonewall Jackson had conducted a campaign of great skill, success, and dexterity of movement in the Shenandoah Valley, north-west of Richmond. He had defeated several separate Unionist detachments in the valley, and then made, late in June, a combined movement with Lee's main body to overwhelm M'Clellan's right wing, the opposite manœuvre to that attempted by Johnston a month earlier. The right wing was stretched around to the little hamlet of Mechanicsville, on the Chickahominy, five miles north of Richmond. Lee sent Longstreet and Hill across the river above Mechanicsville, and they fell upon M'Clellan's extreme right. This attack began the famous "Seven Days' Battles," lasting from June 25 to July 1, 1862. Jackson was to have come down the same day from the valley, but his movement was for some reason retarded and he was late in arrival. Then followed the battles of Mechanicsville and Ellerson's Mill, on Beaver Dam Creek, a little stream that flows from the north through a deep ravine into the Chickahominy, the Union troops all the time retreating. General FitzJohn Porter, aided by General Slocum, made a stubborn stand along the higher grounds east of the Beaver Dam Creek to give M'Clellan time to withdraw his troops and extensive baggage trains across the miserable road that traversed

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the swampy region below. This defence made the terrible battle of Gaines's Mill, the attack being by Longstreet and Hill, during which Jackson got down from the northward, and Porter changing front to face him the contest turned into the first battle of Cold Harbour. Porter held the defensive lines until the Unionist army had retreated, and he then withdrew through the morasses, destroying road and bridges behind him. These defensive contests gave M'Clellan time to make another retreat along a single road crossing the White Oak Swamp, further down the Chickahominy. The higher ground to the southward of the stream was then held, and the Confederate attacks upon this new line made the battles of Savage Station, Charles City Cross Roads, and Frazier's Farm, the pursuit being held in check long enough to permit the Unionist army to make further withdrawal, and to give Fitz John Porter opportunity to form another line of defence on Malvern-hill, 15 miles south-east of Richmond. Against this final defensive stand the Confederates soon hurled their troops, but met a disastrous check, and, worn out by battles and marches, they then desisted. This closed the "Seven Days," during which the losses were 40,000. The Northern army having gone all around Richmond from the north to the south, then withdrew down the James river to Harrison's landing, where the stream was broad enough to accommodate the fleet of transports, and there the fatigued troops rested. They were subsequently removed by the shipping for a later campaign in Northern Virginia, M'Clellan being superseded by General Pope. This brilliant Confederate movement relieved Richmond, and gave them an enormous amount of military stores and other captured goods, besides emboldening them into

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making the two Northern aggressive campaigns across the Potomac river in 1862 and 1863 which led to the battles of Antietam and Gettysburg. In 1863 there were no Unionist attacks directly against Richmond.

The second great movement upon Richmond began in June, 1864, when Grant came down through the "Wilderness," and after the terrible fighting there attacked Lee's Confederate forces intrenched at Cold Harbour in almost the same defensive position occupied by the Unionists under FitzJohn Porter two years before. Grant hurled his troops against Lee's strong position, and without making much impression lost in a brief and bloody contest 15,000 men. He then turned away from this almost impregnable fortress on the north-east of Richmond and transferred his army to the south side of the James river, to make a new attack from an entirely different quarter. Thus the theatre of war was removed to the south of Richmond, and in September, 1864, General Butler's Unionist troops from Bermuda Hundred captured Fort Harrison, a strong work on the east bank of the James, opposite Drewry's Bluff and not far from Malvern-hill. Throughout the autumn and winter Grant gradually spread his lines westward around Petersburg, so that the later movements of the war were rather a siege of that city than of Richmond; and Grant used City Point, on the south side of the James, at the mouth of the Appomattox, which flows out from Petersburg, as his base of supplies, as M'Clellan had used the opposite shore at Harrison's Landing after the retreat of 1862. As Grant spread his lines steadily westward, he cut off one railway after another leading up to Petersburg and Richmond from the south, and ultimately starved Lee out, forcing the abandonment of Petersburg in the

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spring of 1865 and the evacuation of Richmond on April 3, with the retreat of Lee and his final surrender at Appomattox, west of Richmond, six days later. This was the downfall of the Confederacy and the end of the war. Until the spring of 1864 the nearest approach made by any Unionist force to Richmond was by the pickets advanced to the edge of the Chickahominy morass, north of Richmond, and within five miles of the city, by M'Clellan's right wing in June, 1862. In March, 1864, a precursor to Grant's advance through the "Wilderness" was a dashing cavalry raid from the northward, the troopers crossing the Chickahominy, then unguarded, and advancing to a point about one mile from the city limits; but meeting some resistance, and learning of defensive works further along the road, General Kilpatrick, who commanded the raiders, retreated. General Lee's Confederate army was then 50 miles away from Richmond, guarding the lines along the Rappahannock.

The present appearance and condition of the localities of the terrific contests around Richmond are of deep interest to every visitor. I went out by the northern road to Mechanicsville to see the great battlefields along the Chickahominy. Upon the brow of the plateau, where the land falls off to the broad stretch of meadow and swamp through which this river flows, although a quarter of a century has passed, there still remain the formidable redoubts and long lines of earthworks which then protected the city from invasion on that side. This wayward stream, which seeks varied channels among the timber, has much meadow bordering the morasses on the Mechanicsville road, which has been improved into a moderately good highway. The river flows off towards the south-east, through a region of broader swamps, in some cases

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spreading to several miles' width, with extensive savannahs and thickets of undergrowth, the surface, where decaying vegetable matter has gradually produced a hard superstructure over the morass, having much the character of what is known in British America as a "muskeg." The main stream of the varying currents forming the river is generally near the northern edge of these swamps, which are permeated by creeks and bayous. The whole region is sunken much below the level of the table land, so that in the war time the artillerists on the brow of the plateau on either hand could readily see each other over the thickets bordering the stream, and thus indulge in cannonading duels across the Chickahominy. Beyond the river the land slopes up to the village of Mechanicsville, which consists of a half-dozen houses at a cross-roads at the top of the hill, showing, however, no present indication of the fighting that raged there in 1862. The farmers were peacefully gathering their crops on soil which had been enriched by thousands of Unionist graves, for M'Clellan lost far more men from sickness than from battle. The malaria of the swamps and the misfortunes of his campaign bred a pestilence in the hot summer of 1862 that converted much of the camp into a hospital. We turned south-east along the brow of the hill bordering the declivity leading down to the swamps, and passed over what had been the front of the Unionist position. The whole region is now rich in agriculture, and almost every sign of the formidable earthworks, which then bristled with cannon, has been obliterated. We crossed the Beaver Dam Creek, flowing through its deep ravine, and went past Ellerson's little mill, which still showed in its battered condition from cannon shot the fierce fighting that had raged about the ravine when

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M'Clellan's rearguard was protecting his retreat against the attacks of Longstreet and Hill. The roads have evidently not been mended much since those exciting days, and are heavy and bad. Mounting laboriously up the other side of the ravine, beyond the woods that were so gallantly defended against the Confederate advance, we came to the little square wooden church at Walnut Creek, which had been an army hospital. The few countryfolk about were mostly negroes, and they looked very peaceful as they gathered their crops or ploughed the ground or jogged lazily along on their little two-wheeled mule carts. They all, however, had a vivid recollection of the time when Stonewall Jackson, with his fleet army of ragged and hungry rebels, who proudly called themselves the "foot cavalry," came swiftly down from the "valley" and turned the Yankee right wing at the bloody battle of Gaines's Mill. The memory of Jackson seems to be cherished by the Southern people more than that of the other Southern leaders. His brilliant movements and inopportune death have made him their hero of the war. They talk with evident zest of their part in his dashing manœuvres, and are full of most interesting reminiscences, but all now acknowledge they have had enough of war and want no more of it.

We moved over the Gaines's Mill battlefield, now a land of corn patches and scrub timber, and down in the hollow, alongside the stream that turned the wheel of the famous mill, saw its ruins. Gaines's Mill was burnt, but the wheel is still standing, with the water pouring through it, though it no longer turns. Wild roses grow among the remains of the grass-covered floor inside the mill, and a pig-stye and two or three negro cabins adjoin the half-demolished and roofless structure, which was a key to one of the greatest battles of modern

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times. On the hilltop not far away was Dr. Gaines's house, which was the army headquarters. Little evidence remains of the battle, all signs having been obliterated. Rough and dilapidated "corduroy" roads lead about the field, which the engineers had made by felling trees and filling over them a mixture of boughs and earth that made a hasty yet tolerable roadway. These are, however, falling into decay, evidently having had little attention since the soldiers built them. To the eastward, on the higher ground, is Gold Harbour, getting its name from a corruption of the title of "Cool Arbour," which in the dim past was the name given the estate. Here, on the hilltops, first Porter, and two years afterwards Lee, held a fortress against fierce attacks, the armies having in the interval almost exactly changed places, Grant, in 1864, coming down to the attack from the northward upon almost the same line as Jackson in 1862. Here, also, the beneficent hand of time had almost obliterated the marks of the double battles. We then turned southward, and crossed back over the Chickahominy swamps, by the route taken by M'Clellan's forces in their famous retreat, when as they withdrew they burnt or blew up vast piles of stores, covering acres of ground, and destroyed the road and bridges behind them. Then, the shipwrecked wagons and disabled cannon, the scene being lighted by the vast conflagrations of the stores, marked the line of that terrible night retreat. Now, there was not a sign anywhere that told of the pursuit, but the frogs were croaking mournfully in the abundant swamps and puddles, so that our negro coach-driver could not help remarking that they were "holdin' a lively prayer meetin' down dar." The broad swamp was crossed, with its intertwining bayous and patches of scrub

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timber, a most wretched location for an army encampment, and the road brought us out on the southern side to higher ground, overlooking the battlefield of Fair Oaks and Seven Pines to the eastward of Richmond, the first great conflict fought near the city. Much of the lands then fought upon are now occupied by cemeteries. Further to the eastward is the White Oak Swamp, another extensive morass, through which M'Clellan withdrew his army by a single road, the enemy being for three days obstructed and baffled to make good this retreat, which was successfully accomplished, though with great losses of men and *matériel*. All these roads are miserable and the engineering poor, the people evidently having little occasion or disposition to maintain highways through such a wretched region. Looking at the uninviting surroundings, it seems wonderful that any, even the most robust, could survive the sickness that such a malarious region is sure to implant. The children still gather ballets and other relics from these battlefields, which can be easily got. The trade in war relics, however, is not pushed in Richmond as in some other places, where enterprising merchants have learnt to import them to order. In approaching the city from the eastern side there are seen the same formidable lines of defensive earthworks and redoubts as on the northern side, and the desperate necessities of the defence that had to be made are shown by the inner lines of redoubts surrounding the city, which made a series of citadels. Much of these fortifications is being carted away as earth may happen to be needed, and garden plots are being tilled by negro women and children right among the earthworks.

The defensive works and battlefields to the

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southward of Richmond are best shown by a steamboat ride along James river. This historic stream, which preserves the memory of King James I., flows several miles due south from Richmond and then makes a *détour* to the eastward around Drewry's Bluff, with Chaffin's Bluff on the opposite eastern bank. Below this the river makes a series of remarkable gyrations through the lowlands, flowing around three long hooks and curves, none of which, although all are very long, enable the river to make much actual progress. The first of these is "Dutch Gap," through which General Butler cut his noted canal designed to elude part of Drewry's Bluff. As a military measure it was a failure, but it has since been made a shorter river channel for Richmond commerce. It is only 500ft. long, and yet it cuts off five miles of river. The second long hook stretches northward towards Newmarket, and the third, further down, is bordered on its northern curve by Malvern-hill. This latter curve bends around southward to Bermuda Hundred, where Butler's camp was located. Below this the James turns eastward into a broad estuary, on the northern side of which is Harrison's Landing, where M'Clellan's retreat ended, and on the southern side City Point. Here, in 1862, M'Clellan rested under protection of his gunboats; while in 1864 Grant's lines stretched far back along the Appomattox to and beyond Petersburg, being opposed by equally strong Confederate works on the northern side of the Appomattox and behind Bermuda Hundred. This latter neck of land, enveloped by the great fold of the winding James, is where Grant in 1864 significantly described Butler as being "bottled up." Earthworks, encampments, forts, and historic mansions abound throughout all this region south of Richmond, which completes the environment of

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the Confederate capital that was so stoutly defended.

XX.—VOYAGING DOWN JAMES RIVER.

The James river flows entirely across Virginia, its head-waters being upon the western border of the Old Dominion, and its mouth at the lower end of Chesapeake Bay. Like all the streams that drain the slopes of the Alleghanies, it breaks through the great wall of the Kittatinny, and passes ridge after ridge until it emerges from the hills of Richmond into the lowland region below. It is 450 miles long in its tortuous course, and from the falls and rapids at Richmond it flows by a winding channel 116 miles to the sea. It drains a grand agricultural district, and its coffee-coloured waters tell of the rich red soils through which it comes in the tobacco plantations from Richmond westward to and beyond Lynchburg. In its earlier history this noted stream was called, after the Indian King, Powhatan, and it bears that name on the older maps. Just below Richmond is Powhatan, the chieftain's home, the spot where the Princess Pocahontas is said to have interfered at the projected execution and saved the life of Captain John Smith. Here stands a precious relic in an old chimney believed to have been originally built for the King's cabin by his white colonist friends. It is of solid masonry, and has outlasted several cabins which one after the other were built up against it in Southern style. A number of cedars grow alongside, and are said to shadow the very stone on which Smith's head was laid. The James carries a heavy commerce next

here to and from Richmond, and in the wayward river the depth of channel is maintained by an elaborate system of cross-current jetties, built out from the shores and over the shallows in alternating clusters, as the winding channel changes from one bank to the other. The deeper water thus secured by compressing the tidal flow is in some places hardly 100ft. wide. Both banks show the earthworks that are relics of the Civil War, and as the steamboat carefully threads the tortuous route the passengers listen to the interesting reminiscences of Stonewall Jackson's old soldiers, who proudly tell of the martial deeds at which they assisted, and also of their thankfulness that the strife is ended.

The shores of the James at first are low, with hills behind them, until, a few miles below Richmond, a long ridge comes out from the westward, and, projecting across the route of the stream, diverts its course sharply round from south to east. This projecting ridge is the noted Drewry's Bluff, which was the citadel of the Confederate defensive lines upon the south. It stretches for some distance along the bank, a succession of bluffs in which ravines are carved out by little streams, and its summits having admirable command of the river reaches. Here are the remains of Fort Darling and its outlying batteries, crowning the tops of the bluffs and almost masked by the trees. The elevation of their positions gave the gunners the advantage of plunging shots upon the decks of approaching vessels, and the unsuccessful attacks made showed them to be impregnable defences. Passing Drewry, the crooked river then winds the other way in front of Chaffin's Bluff, on the eastern bank, which was also strongly fortified, and some distance behind it in the interior was Fort Harrison, which General

Butler captured in 1864. After passing between these strong defensive works on the two bluffs, the river flows into an almost level plain, and the channel widens somewhat as it approaches the famous region of Dutch Gap. Its course now is around a double reverse curve which carries it over considerable surface without much actual progress. The fishermen are out with their nets, and after threading its way among them round the upper curve the steamboat avoids the second and longest one by sharply turning into the Dutch Gap Canal, cut through a bluff about 40ft. high at the narrowest portion of the long neck of land. This short canal saves the navigator a very long detour, and Butler's military fiasco has become a success for commerce. His object in projecting the canal was to avoid what were known as the Howlett-house batteries, placed at the eastern end of Drewry's Bluff, at the extremity of the river's sharp curve, and in such position as to command both its long reaches. These batteries were a great annoyance to Butler, and he conceived the idea of making the prisoners he held dig the canal, shrewdly reasoning that their own people would not kill them while working. There yet remain marks of the caves and holes in the face of the bluff into which the canal diggers crawled to escape the shells that often came that way. Just below is the large plantation of Varina, where Pocahontas lived after she married the Englishman, Rolfe. Its fine brick mansion was the place of exchange of prisoners during the war. Jetties project in front of this plantation, and the Government is prosecuting extensive works in continuation of the improvement of river navigation. The lowlands in this region are very rich, but there have been extensive overflows where freshets have broken the dykes, so that valuable plantations are

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ruined, their owners not having the means to reclaim them. The river then curves round again and again as it flows past Deep Bottom and circles about one elongated neck of land after another, the steamboat heading at times all round the compass, and though it goes steadily along the winding channel, yet seeming to always be steaming about the same landmarks. Long lines of earthworks stretch northward towards Newmarket, which made an important part of Richmond's southern defence.

Having for a protracted period sailed round I know not how many necks of low-lying land—excellent mosquito farms and ague generators—the steamboat finally starts to encircle still another, the Turkey Island bend, and heads directly for Malvern-hill. This noted battlefield is on the slope of a long ridge rising just north of the bend, with almost bare fields running up to its summit, which is crowned by a small house and to the left, at some distance, a little wood. It was here that FitzJohn Porter planted his batteries on the crest of the ridge and made the closing defensive line, resulting in the final battle of the "Seven Days." Along the Newmarket road from the west and from Charles City road to the north the Confederates made their fierce attacks, which were repulsed with terrible slaughter. In failing to take advantage of this by attacking the decimated and disheartened Confederates immediately after the victory, M'Clellan made the mistake of his life. The long ridge of Malvern-hill stretches away from the river towards the north-west, and in the great battle it was a vast amphitheatre terraced with tier upon tier of artillery, while gunboats in the river aided the Unionist defence. Now the only signs of life are given by a few fishermen with their nets along

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the shore, and we are told that since the battle this region has been famous mainly for good shad and vigorous mosquitoes. Having rounded Turkey Island bend, the meandering river has a brief interval of comparative straightness, and the steamboat heads southward towards City Point, passing on the right hand the lowlands of Bermuda Hundred, where Butler was "bottled up." Its broad, flat, fertile surface was mainly a wheat-field, stretching back to its boundary by the upper reach of the river on the opposite side. Here, on the eastern bank, is the plantation of Shirley, one of the famous Virginia settlements that come down from the colonial times, and is now held—a rare thing in eastern Virginia—by the descendants of its original owners, the Carters, who occupy a prominent place in the front rank of the "first families of Virginia." The wide and attractive old brick house, with its hipped and pointed roof, stands behind a fringe of trees along the shore, with numerous outbuildings constructed around a quadrangle behind it, arranged in the days when Indian attacks were dreaded, so that an enfilading fire could be made. It is two stories high, and built of bricks brought out from England. A capacious porch shades the front windows, while round the roof are rows of dormer windows, above which the roof runs from all sides up into a point between the tall and ample chimneys. It is a large mansion, with many chambers, and as we pass the doors are wide open and give a brief view through the hall. Behind it are the lower red-roofed outbuildings of much similar construction, that were forts in colonial times. This noted house, built originally by the Hills, was held by their descendant, Colonel Hill Carter, during the Civil War, and is now the home of his son, Captain Robert Carter. From

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this pleasant spot the view across the river to the westward is over Bermuda Hundred, and then as the channel again bends from south round to east, with its surface greatly broadened, the southern view from Shirley is across the James to the mouth of the Appomattox and City Point.

The Appomattox river originates in the hills near Lynchburg, where Lee surrendered to Grant, and flows eastward 120 miles to the James. It passes Petersburg 12 miles south-west of its mouth. The place of union with the James is a high bluff thrust out between the rivers, with abrupt banks and a plateau on the top which is well shaded. Here is another noted house, nestling among the trees high above the water, the home of Dr. Epps. Its great fame came from its use by General Grant as his headquarters during the operations from the south side of the James against Petersburg and Lee's army in 1864-65. Grant occupied two little log cabins on the top of the bluff, just east of the house, one being his dwelling and the other his office. One was some time ago removed to Fairmount Park, Philadelphia, where it is kept as a relic; the other remains, somewhat dilapidated, but still surviving its renowned occupant, 22 years later. To the eastward of the bluff is the little town of City Point, a place of some trade, with scattered houses along the shore and upon the bluff, and a railway coming out from Petersburg to the landing. The wharves, where once an enormous business was done at landing army supplies, are now mostly ruined, having been burnt at the close of the war, and their present restricted traffic opportunities not warranting much repair. In front are anchored a fleet of monitor ironclads, laid up by the American navy in fresh water and a sheltered location, slowly rusting out of exist-

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ence, for the advances in naval architecture nave superseded them. The listless life led by the officers in charge must induce them to pray for better things.

The James river flows to the eastward from City Point, a steadily-broadening stream, and for miles the sloping shores of the northern bank were the location of M'Clellan's camps at Harrison's Landing, where he rested his troops after the "Seven Days," having retreated there upon the close of the final contest at Malvern-hill. The Unionist camps occupied the plantations of Berkeley and Westover, the former having been the birthplace of General Harrison, who was President of the United States in 1841 for a brief period, dying in office. In this pleasant spot, with ample space on shore for bivouacs, and plenty of water-front and anchorage for transports, the Union army rested after the unfortunate summer campaign of 1862, remaining there until taken away by vessels and removed to the front of Washington a few weeks later. The Berkeley-house stands on what is now a bare tract with extensive fields behind it. Broad verandahs enclose it, and the yellow outbuildings give the mansion and its surroundings a comfortable look, though it lacks shade, having lost its trees by the fortunes of war, the projecting boat landing having also fallen into ruin. This tract, like many others of the old Virginia plantations, has since the Civil War passed into the possession of new owners. A short distance further down is a quaint old mansion of red brick, architecturally of the reign of Queen Anne, with one wing only standing, the corresponding wing on the eastern side having been burnt during the war. This structure, with its pointed roof surmounted by tall chimneys, standing at the top of a beautifully-

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sloping bank, is Westover-house, the most famous of the old mansions on the James river. It was the colonial home of the Byrds—grandfather, father, and son—noted in the early history of Virginia, whose arms are emblazoned on its iron gates and who sleep in the little graveyard alongside it. The second of these was of greatest renown, the "Honourable William Byrd of Westover, Esquire," who was the founder of both Petersburg and Richmond. He was a man of high character and imposing personal appearance, and his full-length portrait in flowing periwig and lace ruffles, after Vandyck, is yet preserved at Lower Brandon, further down the James. He inherited an immense landed estate and ample fortune, and was sent to England for his education, living in Europe for many years. He was called to the Bar at the Middle Temple, and was made a Fellow of the Royal Society. The inscription on his Westover tomb tells us he was also the friend of the learned Earl of Orrery. He held many high offices in Virginia, being Receiver-General of its revenues and President of the Colonial Council. He possessed the largest private library then owned in America. In connexion with one Peter Jones, this distinguished Virginian in 1733 laid out both Petersburg and Richmond on lands owned by himself, establishing them respectively at the head of ship navigation on the Appomattox and the James. He left profuse journals, which have been published as the "Westover Manuscripts," and they announce that Petersburg was gratefully named in honour of his companion-founder, Peter Jones, and that Richmond got its name from Byrd's vivid recollections of Richmond's outlook on the Thames, which he found reproduced in the soft hills and far-stretching meadows adjoining the rapids of the James, with the curving sweep

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of the river as it flowed away and was finally lost to view behind the glimmering woods. He died in 1744, and his estates have passed away from his descendants. Westover-house, which was M'Clellan's headquarters when his armies encamped there, is now occupied by Major Drewry, who owned Drewry's Bluff below Richmond. He has restored all the buildings, effaced as far as possible the ruin wrought by the war, and has made Westover one of the loveliest spots on the river.

It was in these noble mansions, surrounded by regiments of negro servants, that the courtly Virginians of the olden times dispensed a princely hospitality which was limited only by their means. The stranger was always welcome at the bountiful board and the slave children grew up amid plenty, hardly knowing what work was, the difficulty usually being not so much to find somebody to perform the task as to provide enough work for every one to do. Now, however, the upheaval of the war has made a vast change. The Virginian continues to be as open-hearted and hospitable, but his means are much less. To all he has the guest is welcome, but it is always with a tinge of regret that he recalls the good old time when he might have done more. The negro is changed too. He now has to largely look out for himself, for the master is no longer the provider, come what may. He has his liberty and his vote, and he labours for wages, but he hardly seems to get on as he did then. Most of the negroes who attempt to till their own small tracts of land seem unable to earn an existence excepting in the most stinted and often precarious way. They dislike working alone, for they always want company, and when they get any money it appears to cause them uneasiness until it is spent, and

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the travelling circus gets some of it and the cross-roads country storekeeper more, the investments being largely in sweets and whisky. Their chief desire is to enjoy a crowd and thus get company, and the prominent social delight is the "church meeting." It is here they mingle politics with religion, and the parson becomes the leader of his flock in their social and political as well as their religious duties. The shrewd race of modern politicians in Virginia have found out that the way to capture the votes of the negroes is to get the good will of their preachers, and hence in an exciting election campaign these influential leaders are much sought after. The political orator in addressing meetings of the voters in this region opens with "Fellow citizens and brethren." While "citizens" may do for the white man, the word "brethren" is always the most captivating title for the coloured brother. These negroes, too, are an imitative race. They follow closely after the ways and methods of the whites, and on the steamboats and railways, to thoroughly imitate the white folks, they insist on taking first-class places and cheerfully pay the first-class fares. Their funerals are usually great displays, with large crowds, a long procession, and a feast which costs all the ready money possessed by the family. Many of them are recklessly improvident, working until they accumulate a little wages, then drawing their money and idling their time until every penny is spent and sheer necessity forces them to work again. On the James river plantations the negro is generally regarded as a costly labourer for the planter, as they are given without charge their cabins, pigs, fowls, all their rations, and ample fagots for fuel, and are paid about 2s. per day wages besides. They burn much more fuel than the whites, as they are always sensitive to

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the cold, and require large fires to warm them, usually sleeping on the floor without bedclothing and with their feet almost thrust into the flames. This, with the uncertainty about their steadiness at labour, makes them costlier than white labour at higher wages, though the latter can rarely be obtained for plantation work. Such is the diagnosis given me by a prominent Virginian planter of the present condition of the newly-enfranchised race on the James.

Coggins Point projects opposite Westover, and round it the river bends sharply to the south. Noted plantations and mansions line the banks, and like those above, all these, with the counties and villages, bear well-known English names. This was the region of earliest English settlement in America, and from each old house on the bank long landings project out over the shallow water to the steamboat channel. At the point is the ruined Fort Powhatan, a relic of the war with England in 1812-15, its almost demolished walls being down by the shore, while above on the bluff are the remains of modern earthworks, this having been a Unionist outpost. Cypress trees elevate their conical knees and roots in the water on the borders of the neighbouring lowland swamps. Sturgeon Point is passed, a region of prolific sturgeon fishery, this favourite food of the locality being popularly known as "Charles City bacon." The Chickahominy river having become a broad watercourse flows in below here between low shores, and the James is a very wide estuary. In this part of the river, upon a low yellow bluff on the northern shore, the first English colony was planted in 1607 at Jamestown. Captain John Smith, of Willoughby, in Lincolnshire, is the hero of this settlement, though the expedition was commanded by Christopher Newport,

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It is 32 miles from the mouth of James river, and the bluff by the action of the water has been made an island, and the situation was probably selected because this furnished protection from Indian attacks. The encroachments of the river have swept away part of the site of the early settlement, and a portion of the old church tower and some tombstones are now the only relics of the ancient town. On top of the bluff can be seen the ruins of the tower, almost overgrown with moss and vines. It has a background of trees, and a couple of little cabins a short distance from it are the only present signs of settlement. Here the colonists landed, and here they quarrelled, were stricken with pestilence, and were massacred by the Indians. To the old church Pocahontas came to be baptized and married, and afterwards she made the voyage to England, where she died. Her descendants are to-day among the proudest of the Virginians. Behind the ruined tower is the red wall of the graveyard where the first settlers were buried. At some distance below on the river shore is the present mansion of the Jamestown plantation, where our steamboat halted a moment to take its mistress aboard. To the southward the plantation is very low, with bordering lagoons and marshes, and the river bends round the island, behind which its water can be seen across the neck of land.

The James river forests are being steadily cut off, and this furnishes a brisk timber trade, mainly in railway ties, planks, and faggots for northern shipment. The wharves have to be built out long distances, for as the estuary broadens the water adjoining the low shores becomes very shallow. In the bays there are large surfaces devoted to oyster culture, where the seed oysters are planted

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which are gathered by fleets of small vessels for transplanting into salt-water beds. As we cross the vast expanse of waters the long protruding point of Newport's News, near the mouth of the river, appears far away in front with a huge corn elevator on its outer end. Here came Christopher Newport to get his news from England, and it has been "Newport's News" ever since, and is now a flourishing town and terminal for the Chesapeake and Ohio Railway. We steadily approach and touch at the great piers the railway has built to conduct its through trade between the Mississippi Valley and Europe, and also for the shipment of coals. Last year nearly 900,000 tons of freight were shipped from these piers. It was to a point almost opposite here, in the spring of 1862, that the Confederate ram Merrimac came out from Norfolk and sunk or disabled the American wooden naval vessels in Hampton Roads, the next day, however, being encountered by the ironclad Monitor, which had opportunely arrived from New York, and being herself disabled. This timely appearance on the scene of "the little Yankee cheese-box on a raft" made a sudden and most unexpected revolution in the naval methods and architecture of the world. Round the point of Newport's News the broad bay opens into one of the finest harbours of the Atlantic coast—Hampton Roads at the mouth of the James, named from the village of Hampton on the northern shore, which is now the site of a veteran soldiers' home and a negro and Indian school. Across the roads is the wide expanse of Chesapeake Bay, the great inland sea leading up to Baltimore, which is the theatre of many exciting but happily bloodless "oyster wars" between the rival Maryland and Virginia fishermen, and is a region for the culture of delicious ter-

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rapin and canvas-back ducks and for good shooting. The predatory oysterman who stealthily ventures upon forbidden preserves is driven off or captured by the armed cruisers of the "oyster navy," and these recurring conflicts occupy much space in the newspapers and in local politics. Hundreds of vessels, chiefly the large American coasting schooners, are anchored in the roadstead as we cross it. The low shore to the northward is adorned by the huge public buildings of Hampton, and this land to the right tapers off to Fortress Monroe, and there terminates in one of the chief watering places of this coast—Old Point Comfort—where the landing closes our interesting journey down the historic James river.

XXI.—THE CHESAPEAKE BAY REGION.

The Chesapeake is the largest inland sea on the Atlantic coast of the United States. It stretches for two hundred miles up into the land between the low shores of Maryland and Virginia, giving both States valuable navigation advantages. Its bays and arms are the resting-place for the oysters which its people send all over the world, and the sportsman seeks its shores for unrivalled fishing and shooting, while it abounds with popular summer resorts. The Susquehanna river, coming down through New York and Pennsylvania, forms the head-waters of this great bay, and it also receives other large rivers from the Alleghany mountains—the Potomac, dividing Maryland and Virginia, the James in Virginia, and smaller streams, such as the Rappahannock, York, Patuxent, Patapsco, Choptank, and Elizabeth

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rivers. Noted cities are upon its shores, including Baltimore, Annapolis, and Norfolk. Extensive lines of profitable commerce seek transport over it. Canals connect it with other interior waters, both north and south, and three or four railways lead to the far West, besides others along the seaboard. Hampton Roads, just inside the entrance, is its unrivalled harbour. The little peninsula of Old Point Comfort, which juts out beyond Hampton and thus makes the northern boundary of the mouth of James river, has upon it the largest and most elaborate fortification possessed by the Americans. After the British invasion of 1814, when they sailed up Chesapeake Bay and burnt the Government buildings at Washington, it was quickly determined that no foreign foe should be again permitted to do such a thing, as the invasion was a menace not only to the national capital but also to the chief navy yard of the States at Norfolk. Bernard, one of Napoleon's noted engineers, had offered his services to the Americans after the downfall of the French Emperor, and he was given charge of the construction of a defensive work at the mouth of James river which would command the channel into that river and to Norfolk, and at the same time be a base for operations against any fleet attempting to enter Chesapeake Bay and menace the roadstead. Bernard built an elaborate fortress, with broad moat and outlying water battery, enclosing about 80 acres, the ramparts being some three miles in circumference. It was called Fortress Monroe, after the then President, James Monroe, of Virginia, who now rests in Hollywood at Richmond. Out upon an artificial island known as the Rip-raps, two miles off shore, in the harbour entrance, the smaller works of Fort Wool were subsequently constructed, and the two are now the defences of the

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entrance to Chesapeake Bay. During the 70 years the fortress has existed it has not had occasion to fire a gun at an enemy, but its location and strength proved invaluable to the North, who held it during the Civil War. The fortress is the seat of the artillery school of the United States Army, to which the young officers are sent from their regiments for instruction.

Upon the water side of the fortress, to the southward, Old Point Comfort is occupied by an extensive sea-side hotel. Here the ladies come to flirt with the young army officers, and the usual fashionable frivolities reign supreme. The place is very popular, and a thousand people are at times packed into the hotel, and endeavour to kill time as they best can. The invalid from the North in the severer seasons seeks a balmier air at Old Point, while in summer the Southron comes in search of cooler weather. It is a sort of small Riviera in the winter, while the ocean tempers its summer heats. The glass-enclosed piazzas, and the adjacent ramparts of the fortress, which in these piping times of peace are a common promenade for the hotel guests and the artillerymen, give a fine outlook over the waters east and south. To the eastward is a boundless expanse of open sea limited only by the horizon. To the south the view is across a gentle surf, rolling in upon a sandy beach, with a couple of boat-landings pushed out beyond it. A little way out in the harbour is the low-lying island of the Rip-raps, with its fort covering almost the entire surface, behind which is seen the distant line of land that makes the southern boundary of Chesapeake Bay, beyond this being the Elizabeth river and Norfolk. To the westward, Hampton Roads spreads across the scene, with Newport News and its railway piers and elevator in the distance. The James

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river expands behind the elevator, looking like another open sea as one gazes up its wide and apparently almost boundless estuary, for all these Chesapeake Bay rivers have enormously broad and usually shallow mouths. In the capacious roadstead, hundreds of vessels are at anchor, and many are moving in all directions, in or out from the James river, or from the Elizabeth river and Norfolk, or the upper bay and open sea. Porpoises gambol on the waters, and boats' crews from the naval vessels at anchor skim over the surface. It is a peaceful scene, yet with many warlike memories of a quarter of a century ago. It has a soothing effect upon the traveller who has been buffeted about in railway carriages or over the roughly-paved streets of most American cities. There is no surprise, consequently, that this charming marine panorama attracts so many visitors, who love to gaze at the changing lights and shadows and the vessels moving upon the waters. When they tire of this, a fine shell road—a material making an admirable roadway—leads to the adjacent settlement of Hampton, a quaint old Virginia village, having a soldiers' home caring for about 800 veterans, housed in excellent buildings situated in a splendid park fronting the roadstead. Here also is the Normal Institute, devoted to the higher education of the negro race, which, besides, provides for quite a number of Indian children brought from the far West. This school is designed especially to train the coloured youth to be teachers for their own people, and has a large farm attached to it where the pupils cultivate the land and get agricultural instruction. This institute is an offshoot of the famous "Freedmen's Bureau," established after the War to look after the welfare of the negroes. Hampton also has another relic of the war in its

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cemetery, where 5,000 Unionist soldiers have found their last resting-place.

To the spacious Government wharf at Old Point many steamers come, and hither all the neighbouring farmers and gardeners send their early fruits and vegetables for Northern shipment. All kinds of specimens of "darkeys" come with all sorts of vehicles and the queerest and most amusing rigs, bringing their peas and potatoes, lettuce, cabbage, and berries to load upon the North-bound steamboats. In fact, much of the available country about Chesapeake Bay and for a long distance southward is a vast market-garden for raising early produce for the Northern cities, and the steamers and railways thrive upon its transportation. To this wharf also frequently comes the trim little United States steamer Dispatch, which is usually employed in taking Government officials on excursions, and is humorously pointed out by Americans as "what is left of the American navy." Better things, however, are hoped for that gallant navy when the fleet of new modern cruisers recently ordered by Congress are put into commission. From this wharf we take a steamboat, and, crossing the roadstead, sail up Elizabeth river to Norfolk. The portion of the "Old Dominion" southward of James river is a region largely of worn-out lands, though the Northern demand for fruits and vegetables has greatly stimulated its market-gardening in recent years. The back country eastward from Petersburg to the sea is a flat and uninteresting surface of pine forests, with occasional clearings, where the pigs and negro "piccaninnies" appear to hold the rude cabins where they live in a sort of joint tenancy. A vicious farming system in the past, combined with the present poverty of most of the landowners, has ruined much of the agri-

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cultural prospects of the region. Upon the winding paths through the woods the ox-team plods along, or a solitary horseman may be seen in his butternut suit going home with supplies from the cross-roads grocery, not forgetting the whisky jug, usually hung from the saddle-bow. This is the land where the "gouber" or "peanut" grows and is a staple food. It also produces railway ties and firewood fagots in abundance for Northern export. As the ocean is approached, this section gradually changes into the lowland region of market-gardens and good lands surrounding Norfolk, to the southward of which is the great Dismal Swamp.

Our huge steamboat bringing over the Pennsylvania Railway train carefully enters the Elizabeth river, which in reality is an arm of the sea, curving round from the south to the east, and has Norfolk on its northern bank and Portsmouth opposite. It is a flat and low country, the entrance to the inner harbour having on the left hand a fort and on the right a magnificent park of noble pine trees, within which is a large marine hospital. On the opposite side are the capacious wharves fronting Norfolk and also its finest residential section. Far up the river are Gosport and its navy yard, the largest in the States. Many cotton bales, much timber, tobacco, and naval stores, and a vast amount of garden produce, not forgetting the "goubers," all awaiting shipment, fill the Norfolk piers. This enterprising city has awakened since the civil war from a long period of semi-somnolency, and under the stimulus of Northern energy and capital has become, next to Savannah, the Atlantic port of largest southern shipment. Although there are barely 60,000 people in the various settlements adjoining the Elizabeth river, yet under its

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renewed impetus there was last year a trade valued at nearly 11 millions sterling. The cotton compresses do a lively business preparing the bales for ocean transport when the season is brisk, and under the powerful hydraulic pressure they squeeze the bale to barely one-fourth its former size, and bind it firmly with iron bands, to give the vessels increased stowage. The various railways from west and south centering at Norfolk, and the advantage of an excellent harbour almost at the edge of the Atlantic ocean, have greatly enhanced its trade. The Norfolk and Western Railroad, bringing the minerals from the Alleghanies out to the coast and traversing the entire State of Virginia, is its chief line, and through this medium Norfolk has become an extensive exporter of bituminous coal of the highest quality throughout the Atlantic seaboard and to the West Indies. The Seaboard and Roanoke Railroad and the Southern line bring in a large traffic from the south, and there are also many connecting steamer lines on the James river, Chesapeake Bay, and along the Atlantic coast. The New York, Philadelphia, and Norfolk Railroad is the chief railway connexion with the Northern States, the trains being transported across Chesapeake Bay to the "Eastern Shore" peninsula, between the bay and the ocean, and going thence northward to the connexion with the Pennsylvania Railroad, leading to the great Northern cities. The most prominent feature in the trade of Norfolk is probably the export of food supplies. In the spring the shipment of early fruits and vegetables is enormous, and vast surfaces in the neighbourhood are devoted to their growth. Strawberry beds cover many acres, and hundreds of pickers, gathered from all quarters, will work in a single field. The certainty

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of this trade causes constant additions of new lands to the market gardens, and the express trains carrying the produce northward become something prodigious, besides the vast cargoes laden on steamers. The oyster is another Norfolk specialty, the packing for shipment coming in opportunely after the early fruit and vegetable season is over. The "gouber" crop comes into Norfolk for cleansing and export by millions of bushels. The timber trade is immense, large saw mills converting the logs into merchantable timber, and an extensive section south and west being accessible to the axemen.

It is about three centuries ago that certain adventurous Englishmen, sent out by Sir Walter Raleigh, who had landed upon Roanoke, to the southward, in their wanderings found the Indian village of Chesapik, on what is now Elizabeth river. This village gave its name to the great bay on which Elizabeth river—named after Raleigh's Sovereign—debouches. There were unsuccessful attempts to plant a colony, and when, in the subsequent reign, Captain John Smith entered the "fair bay," as he called the Chesapeake, there were no signs of colonists on Elizabeth river, the Indians having driven them away. Norfolk begun about 1680, and was made a borough in 1736. Portsmouth, on the south side of the river, was settled later, but the navy yard having been established over on that side it has had great impetus. This yard is an extensive enclosure, with a large and costly dry dock, many storehouses and shops, but it does little work at present. The Portsmouth streets are all well constructed shell roads, wide and shaded. In a prominent position on the chief street is an elaborate monument to the Confederate dead, for Portsmouth in proportion to size is said to have

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sent more soldiers to the southern armies and to have had more dead than any other city. The naval hospital and its splendid grove of trees front Portsmouth on the northern side towards the harbour, over which there is a pleasing view from under their grateful shelter. The Norfolk streets are not so well paved as those of Portsmouth, but they show brisk business. The finest residential part of Norfolk is the "Point," where the Elizabeth river is joined by one of its branches at the lower end of the city. All the land thereabout is low-lying, and much of it is ground reclaimed from the water. As the creeks and bayous seem to flow all about the neighbourhood, there are pretty views in almost every direction. The houses are surrounded by beautiful flower gardens, and these, with the ends of the streets, run down to the edge of the harbour, having fleets of shipping at anchor in front. While pleasant to look at, these moist surroundings make it a prolific mosquito-producing region, and the residents say they still exhibit all the aggressive and energetic spirit formerly shown by the Southern people. The old St. Paul's church of Norfolk is its American revolutionary relic—an ancient building with a yard of old graves, and having in its steeple the indentation made by a cannon-shot when the British fleet in 1776 bombarded and burnt the infant yet patriotic town. An old-fashioned round-shot rests in the indentation; but it is not the original visitor put there by George III.'s cannoneers. The sexton, with an eye to the fitness of things, manages whenever the cannon-ball is appropriated by a relic-hunter to have another on hand to pop into the cavity, and thus is the reputation of the old church maintained.

We reluctantly took leave of this Virginia

region of balmy fertility and whole-souled hospitality, and turned our faces northward. The renewal of the memories of the earliest English settlements in America, and the recalling of so many English names and of so much that had been of Anglo-Saxon origin, was intensely interesting. But our footsteps must not tarry, and in the morning we boarded the great steamboat that carried the north-bound train across Chesapeake Bay to Charles City, to take the railway northward over the "Eastern Shore" peninsula. A brief and rapid sail over the sparkling waters brings us to the railway terminal, and the train speeds rapidly northward through Virginia, Maryland, and Delaware over the line of the New York, Philadelphia, and Norfolk Railroad. It passes through much forest over a level surface in a flat country, which has enabled the railway builders to lay a mathematically straight line for nearly 90 miles—said to be the longest tangent in the States. The recent construction of this line has just opened this country to a ready access to the northern markets, and has attracted market gardeners and fruit growers, who have made many new clearings. For miles the region is a perfectly level plain, with new settlements appearing and buildings going up wherever a station has been located. Quite a tendency has thus been developed to settle in this fertile southern section, which the railways have brought close to the northern cities, where good sale of produce is assured, rather than to go to the Far West. The country is fast becoming a garden spot between the Atlantic Ocean and Chesapeake Bay, its climate tempered by both, and its soils adapted to the wants of the gardener and fruit grower. As the train speeds northward, it runs into the peach country, renowned throughout America as the land where the "Delaware

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peach crop" is grown. This section extends through both Delaware and Maryland, and for miles the line is bordered by the extensive and thrifty peach orchards, and the stations are filled with the peach crates that carry the fruit to market. In the centre of this region Delmar is passed on the boundary line between the State of Delaware and Maryland, named by taking the first syllable from each—a flourishing village of several hundred people, owing its prosperity and quick growth entirely to the railway. The sign on a pretentious building near the station tells of the prevailing business—"Fine farms for sale in the peach belt." The development of good agriculture is shown all about. The construction of this line has been a great thing for the northern dining table. It rushes the product of the Norfolk market gardens and of the peninsula truck fields and fruit orchards to the northern cities in a single night at express speed, and has almost cut out their own outlying market gardens, which are much later in production. It has provided extensive terminals at Norfolk for its trade, and vastly stimulated the raising of produce throughout the entire section which it serves, so that the aspect of the whole country along its route is being changed. This spring there were cultivated near Cape Charles a hundred acres of strawberries in a single field which an army of pickers gathered for shipment.

The way in which a country can be revolutionized in the States by opening a new transportation route has been shown by the changed methods of this "Eastern Shore." A few years ago it was sparsely peopled by a listless community whose primitive ways had come down from the last century. Now the farms and forests are changing to fruit and truck gardens, and the stimulus of pro-

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fitable trade piles up the stations with their produce, for they are engaged in feeding populations numbering several millions, from 200 to 500 miles northward. The rapid trains for the quick delivery of this produce go as far as Boston, and in some cases to Canada. In 12 hours the fresh and tempting fruits and vegetables are delivered in New York, in 20 hours in Boston, and in 30 hours in Montreal. In the height of the spring season the "Peninsula Strawberry Express" is something wonderful to behold—train after train taking the fruits to market, with cars going to scores of northern cities and towns, for 150 cars laden with strawberries will be sent north in a single day, and 275 cars a day in the season for early vegetables. The "Peach Express" is another great train, when that fruit is carried in midsummer and autumn, and all else stands aside to put the peach trains through on a lightning schedule. The growth of the business I am told is so rapid that nearly six times as much stuff is being forwarded this season as last. To show the character of the traffic I obtained from Vice-President Patton of this railway a statement of the produce gathered by his line and delivered to its northern connexions with the Pennsylvania system at Delmar in 1886, and the aggregate is enormous. There were sent north 125,000 barrels of Irish potatoes, 275,000 barrels of sweet potatoes, 50,000 boxes of green peas, 100,000 barrels of kail and cabbage, 100,000 barrels of oysters, 6,000,000 quarts of strawberries packed in 60-quart crates, 50,000 sacks of pea-nuts, 10,000 boxes of fish, and 12,000 baskets of peaches. I am told that this railway traffic represents about one-half the produce sent north from the Peninsula and the region about Norfolk and the mouth of the Chesapeake, the various steamboat lines carrying as much

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more, so that an idea may be got of the enormous task the "Eastern Shore" has undertaken in aiding to feed the great northern cities. From Delmar the railway leads up through the "Diamond State," in a region of older agriculture in the heart of the peach country. It passes many flourishing villages, including Dover, the capital of Delaware, and Newcastle, an aged town on the Delaware river, where the whipping-posts and the stocks are still in active and popular operation as a method of punishment, and are a terror to evil-doers. The surface of the country is throughout a level plain, well watered by many small streams flowing into the Delaware river, and its thrifty farmers are accumulating wealth from their shipments of peaches and produce northward. We are ultimately brought into the Pennsylvania Railroad, near the City of Wilmington, through which we passed ten days before on our southern journey, and, leaving the land of orchards and market gardens, retrace the line to the Quaker City for a brief rest before starting on a western journey.

XXII.—THE GARDEN REGION OF PENNSYLVANIA.

The portion of the Keystone State stretching eastward from the Alleghanies to the Delaware river is one of the richest agricultural sections in the United States. It is mainly a series of limestone valleys, with running streams and highly cultivated soils, prolific in crops and dairies, and famous throughout the Union for its fine farms and valuable products. Westward through this attractive region is laid the main line of the

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Pennsylvania Railroad from the Delaware to the Susquehanna. This noted highway of travel and traffic crosses the Keystone State from Philadelphia to Pittsburg, and this, the main line of the company, is the nucleus around which has been gathered the greatest railway system in the world. The Pennsylvania lines traverse 12 of the American States, and carry the heaviest traffic in the Union, the vast railway octopus, with its arms spreading in every direction, being all designed to bring trade to this main line. The system joins the Mississippi Valley with the Atlantic seaboard, and the great lakes of the Northern border with the Chesapeake and Potomac in the east and the Ohio river in the west. It unites the populous coast cities with Chicago, St. Louis, Cincinnati, Louisville, Cleveland, Erie, Buffalo, and many other of the great municipalities of the West. The Pennsylvania undertaking includes no less than 7,600 miles of railway, and employs an army of 70,000 men. Its share capital of about 21 millions sterling is largely owned in England, and its annual traffic receipts exceed 22 millions. Its lines from New York southward to Washington, which have already been followed in this journey, were all acquired by purchase or lease; and now its original line of railway will be taken for a westward tour through the Keystone State. In early times, after Philadelphia was the capital city of the Federated Colonies and subsequently of the United States, the capital of Pennsylvania was located at Lancaster, 68 miles westward, then the largest inland city of the Union. To connect them a fine highway was constructed in the early part of the present century, and this "Old Lancaster road," was the route of the early emigrants

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to the West, who toiled along it with their wagon trains towards the frontier, then in Ohio. When railways came in vogue the Pennsylvania State Government built a line from the Delaware river to the Susquehanna, following substantially the route of this highway. This original railroad had a long inclined plane at each end to get down to the lower level of the rivers, and horses dragged the rail cars over it. This State railway, opened in 1834, was worked for over 20 years at a loss, and its leading engineers and builders became afterwards the projectors and managers of the Pennsylvania Railroad, which was chartered in 1846 to extend, as a private work, the State railway beyond the Susquehanna river and across the Alleghanies to the Ohio river at Pittsburg. When this extension was completed the chartered company finally bought the State railway in 1857, and then the continuous route from Philadelphia to Pittsburg became the Pennsylvania main line, which in 30 years has grown into such an enormous and complicated undertaking.

The route in leaving Philadelphia at first skirts the Schuylkill river, and then, turning westward away from that pretty stream, steadily mounts a rather stiff gradient through the suburbs, and out into a very attractive country—a land of villas with ornamental grounds, interspersed with bits of woodland, having pleasant brooks running through the green and yellow and brown fields. The line rises about 400 feet in eight miles, and four sets of rails are necessary for a long way out to carry the enormous traffic. The suburban stations are highly ornamental buildings surrounded with lawns and flower gardens, for this railway mingles æsthetic tastes with its prosaic business. For miles the country adjacent to the line is a region of costly villas and pleasant home

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lets, almost every eligible site being occupied by artistic structures that are the comfortable rural homes of many well-to-do people, the professional and business men of the Quaker city. Some of the buildings that flit past the car windows are great seats of learning. Haverford College is passed to the southward, in its extensive grounds, the buildings almost concealed in a stately grove; this is the great Quaker college of the country and is amply endowed. At Bryn Mawr, ten miles out, is another Quaker foundation, the Women's College, a fine structure some distance north of the railway, its tall tower standing up a landmark for the neighbourhood. The Roman Catholic Augustinian College of Villa Nova is a short distance further on, its cross-surmounted dome and twin church spires rising above the trees. About one mile southward from the railway at Bryn Mawr is the most noted rural residence along the line—Wootton—the seat of George W. Childs. A pleasant valley opening to the westward has a broad sloping plateau stretching down on its southern side, and here, well up on the hill, is a pretty English villa. Ample lawns front it, and behind is a bit of forest, while young evergreens are just starting all about. It is a comparatively new place, but when the trees have grown there will be none that are more attractive. Here is dispensed a splendid hospitality, and here was given one of the special features of the recent celebration of the centenary of the American Constitution—the garden party for the President's wife. Mrs. Cleveland drove herself to the door, skilfully holding the reins of a spirited four-in-hand, planted an oak tree in memory of the visit, and then held her reception. The garden scene, with the lady surrounded by a galaxy of Cabinet Ministers, governors, generals,

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and the leading people of Philadelphia, will long be remembered.

Beyond Bryn Mawr the railway passes frequent settlements, and finally upon a slope to the southward is the Devon Inn, a moderate hostelry much frequented as a summer refuge, its broad red brick front and capacious piazzas and steep roofs forming a fitting background for a wide-spreading lawn bordered by outlying cottages. In its steady westward course the Pennsylvania Railway crosses and recrosses the old Lancaster Road, showing how well the original road-makers sought the easier gradients, and processions of passenger and goods trains pass upon the east-bound lines, for this is a season of enormous traffic. About 20 miles out the villa region is gradually transformed into a country of rich farms and dairies. The line steadily ascends the slope of one of the long ridges that are the southern outcroppings of the Alleghany ranges, and as the old-fashioned farm houses appear we enter Chester county, and can get occasional glimpses, through brief depressions in the ridge to the northward, over the famous Chester Valley. Passing Paoli, a village named after the Corsican patriot, and the birthplace of "Mad Anthony Wayne," one of the heroes of the American Revolution, the railway crosses the summit of the ridge at 550ft. elevation, and suddenly coming out of the hill side there breaks upon the delighted eye a glorious view over the great valley, the land of plenty and one of the garden spots of America. About three miles northward is another parallel ridge, and this charming region lies between. Fields and farms are spread out for many miles on either hand, sloping down to the pleasant streams meandering through the bottomland, and then far up on the other side, where the view is closed by

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the hazy fringe of forest on the distant hills. To the eastward the streams flow out to the Schuylkill at Valley Forge; to the westward they make the headwaters of the Brandywine, that goes off to the south-east to the Delaware river at Wilmington. This magnificent region, with its capacious barns and high cultivation, is like a piece cut out of England. Within its picturesque borders is a varied expanse of greenest grass and waving corn, with herds of countless cattle feeding, and little patches of woodland clustering about the farmhouses. It is a perfect Garden of Eden under the bright sunlight, as the train runs swiftly along, near the summit of the ridge fully 300ft. above the floor of this glorious valley. Here it is that the thrifty Quakers make the delicious butter they take to Philadelphia, and often sell for three and four shillings a pound, and many an old stocking is hidden away in the trim farm houses we look down upon which is filled with the hoarded gold that butter attracts.

A brief halt at a junction, where branch lines start out both ways through this rich dairy region, gives a charming view, and then for miles the train runs along the edge of the ridge, gradually descending into the valley. When a sufficient descent is made, the railway turns north-west to cross the bottom lands, running among the farms and pastures, and crossing the east fork of the Brandywine creek at Downingtown, 32 miles west of Philadelphia. Then for a long distance the line is laid up the valley, which gradually narrows between the ridges and begins to vary limekilns and iron furnaces with its farms and cattle. The old highway is kept in close neighbourhood by the railway, and at Coatesville the west fork of the Brandywine and its attractive glen are crossed on a

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high bridge, which passes almost over the chimneys of a huge iron mill. The towering ridge of Mine-hill, which is the north-western boundary of the Chester Valley, is steadily approached by the line, which now begins to ascend its slopes to cross over to the Pequea Valley on the northern side. Flourishing villages are quickly passed, each with its church spire and graveyard, and the evidences of successful agriculture and thrifty rural homesteads are on all sides, for the city suburbs and villas have given place to big barns and market hamlets and grist mills. After having run some 30 miles along and through this noted Chester Valley, the long ridge of Mine-hill is finally mounted, and seeking a convenient gap the railway crosses the top at the highest elevation of the Pennsylvania line between the Delaware and the Susquehanna rivers, 560ft. Then opens another grand view over the Pequea Valley beyond, one of the richest parts of Lancaster county, its broad acres stretching for miles away in waving fields of corn and tobacco, and its huge barns showing that here is another land of plenty. The limestone quarries and frequent limekilns display the basis of its agricultural wealth. Lancaster county is a region where the best corn is grown, and these farms were the earliest to send American wheat across the Atlantic to feed Europe. In former days the Lancaster wheat ruled all the prices, but now the vast Western prairies have come in to undersell Pennsylvania, and Chicago controls the quotations.

The train runs swiftly over the wide expanse of waving corn-fields, which in the early days of the American colonies was the land of the Conestogas. These Indians were in their day a great and powerful people, and three centuries ago they hunted along the Susquehanna and commanded the

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fealty and alliance of the Indian tribes throughout the Middle States. They were deadly foes of the whites, and their tribe being reduced by repeated wars they began to decline in the early days of Pennsylvania. The last remnant of them, having been hunted almost to death, took refuge in 1763 in the ancient gaol at Lancaster, and here they were cruelly massacred by a guerilla organisation called the "Paxton boys." The Conestoga creek, a broad stream skirting Lancaster with its attractive shores, preserves their name, and flows down to the Susquehanna. Crossing the creek, beyond it are stretched out the factories and other buildings of Lancaster, prominent among being the castellated brown sandstone tower of the county gaol, which almost reproduces one of the romantic castles of the Rhine. In early days this inland city was known as "Hickory Town," but in the last century it loyally christened itself Lancaster, and named the two chief streets that intersect at the Central Market-square King and Queen streets, with Duke-street parallel to the latter. These loyal names continue, and there has grown up a fine specimen of the older style of agricultural market town of America, with 30,000 people, who have developed extensive milling and tobacco packing and large manufacturing industries and amassed considerable wealth. In the Central-square is a splendid monument to the soldiers of the county who fell in the civil war, its shaft rising to a great height and finely sculptured guards representing each branch of the service standing on duty around the base. Franklin and Marshall College has attractive buildings on the outskirts of the city. Its gem, however, is Woodward-hill Cemetery. A bold bluff slopes steeply down towards the Conestoga, which throws out a graceful circle in its

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tortuous course to wash the base of the bluff. Upon the surface and sides the graves are terraced, while in front of them, and far below, the Conestoga flows placidly round a conical hill. Here rest the ancestors of the people who to-day control this attractive region. A primitive rope ferry carries the passenger from the cemetery over to the opposite shore, where almost every foot of land is carefully cultivated. Lancaster has contributed much to American history. It was in this then frontier town of the colonies that in 1753 Braddock's unfortunate expedition to Pittsburg was organized and equipped by Benjamin Franklin. Here lived and died the only American President from Pennsylvania, James Buchanan, whose remains lie on Woodward-hill. Here Robert Fulton grew up and was educated, though his remains rest in New York. Thaddeus Stevens, who was one of the greatest Northern Parliamentary leaders in the civil war, belonged to Lancaster. To-day, a walk through its quiet streets and among its comfortable dwellings shows that the wealth and thrift of the region may be great, but still have their drawbacks. Litigation must thrive, for the number of lawyers' signs displayed upon doors and windows is legion; and the politicians thrive too. The Court-house and other places were liberally placarded with the announcements of candidates for office—for a long list of offices are to be filled at the approaching election, and there are plenty of candidates for each. Their cards announce their claims, among them being "a crippled soldier," "a life-long Republican," "a one-legged soldier," "always a Republican," and similar statements. The Democrats do not seem to get much chance at the offices in Lancaster county.

We leave the banks of the Conestoga, and start

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from Lancaster for Herrisburg, the Pennsylvania State capital. Another ridge is crossed and, passing a fertile farming region, the grade descends to the picturesque Conewago creek, which divides Lancaster from Dauphin county. The country becomes rough with huge boulders scattered about and wild woods growing over them. Here is a region haunted by artists, the striking scenery of the Conewago gorge being a veritable Swiss reproduction. The train moves slowly over the high bridge, and gives a grand view down the gorge, where the stream flows a torrent over its rocky bed and far away westward towards the Susquehanna. Through the defiles of the South Mountain the railway winds along, and finally comes out on its western slope upon the side of the wide valley of the Susquehanna, a river which we have seen before in this journey both above and below this region. The broad channel, fully a mile wide, is filled with little islands and protruding rocks, over which the water foams, for this vast stream is nothing but an immense drain, being sown too thickly with rocks and shallows to permit navigation. The train descends the slope to the river side and crosses the Swatara river, which not far above has pierced the great Kittatinny range. Then we run among a succession of enormous iron mills and steel works, with their outlying villages and almost endless stocks of iron and steel and heaps of refuse. There are more farms with rich fields and big barns, and among them is the historic estate of "Lochiel." Here lives in his old age the chief of the Cameron clan, which for years has ruled Pennsylvania. General Simon Cameron, who came a poor printer's boy to Harrisburg, rose to vast wealth and power, and in his declining years has left his son, Senator James Donald Cameron, as his successor. Their "clan."

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who rule the State, has in its combination politicians, bankers, railway princes, and merchants, and it is said to be probably the most complete and successful specimen of the political machine the States can exhibit.

Harrisburg has grand surrounding scenery. Just above it the Susquehanna river breaks through the Kittatinny at Dauphin Gap, giving a magnificent display of the rending asunder of the mountain chain. Opposite are the forest-clad hills that border the counties of York and Cumberland. Within the town are sundry eminences, upon one of which, known especially as "The Hill," stands the State Capitol building. The town is rather dull when the Legislature is in recess, and the lawmakers bring it most of its business. Their daily walk when the session is on is from the "The Hill" down to the white painted brick hotel, with a mansard roof, in Market-street, which bears the inscription "Lochiel," the watchword of the powerful clan. Here is the centre of Pennsylvania statesmanship, and in its apartments the destiny of the commonwealth is shaped. The Capitol is but a short distance off, standing in the centre of a park on top of "The Hill," a brick building, 180 feet long, with a circular columned portico and surmounting dome. The Capitol has a fountain and flower gardens around it, and State-street is opened from its front down to the Susquehanna. In the centre of this street stands the Dauphin county soldiers' monument, an enlarged representation of Cleopatra's Needle. The Front-street along the river bank is an attractive promenade, bordered by fine residences. Here live the Governor and Senator Cameron, with a beautiful outlook at the landscape beyond. Below is a large island, where two bridges cross the river, one carrying a railroad and the other a

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wagon-road. This latter old "camel's back bridge," a mile long, with its shelving stone ice-breakers jutting out towards you, stands now exactly the same as when Charles Dickens saw it nearly half-a-century ago. Dickens then came into Harrisburg from York county by a stage coach through this bridge, and his description of it at that time is good to-day. "We crossed the river," he wrote, "by a wooden bridge, roofed and covered on all sides, and nearly a mile in length. It was profoundly dark, perplexed with great beams, crossing and recrossing it at every possible angle, and through the broad chinks and crevices in the floor the rapid river gleamed far down below like a legion of eyes. We had no lamps, and as the horses stumbled and floundered through this place towards the distant speck of dying light it seemed interminable. I really could not persuade myself at first, as we rumbled heavily on, filling the bridge with hollow noises—and I held down my head to save it from the rafters—but that I was in a painful dream, and that this could not be reality." Harrisburg, like most of the interior Pennsylvanian towns, has its central market square, and the converging of a large number of the branches of the Pennsylvania Railroad system makes the city a great railway junction. Otherwise, however, it has not much beyond its magnificent scenery to attract. The townfolk are loyal to old John Harris, after whom it is named. They preserve with scrupulous care the stump of the tree at the foot of which he is buried down on the river bank. It was to this tree in 1718 that a drunken band of the Conestoga Indians tied him to be tortured and burnt, when the timely interposition of a friendly tribe from the opposite shore saved him. This old stump of historic memory is enclosed by a railing in the

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little "Harris Park." His son established Harris Ferry across the Susquehanna, and thus was founded before the Revolution the capital of Pennsylvania.

XXIII.—THE GETTYSBURG BATTLEFIELD.

A quick railway ride for about 50 miles south-west of Harrisburg leads to the greatest battle-field of the American Civil War—the scene of the three days' contest at Gettysburg, which many regard as having decided the struggle. Gettysburg is seven miles north of the Pennsylvania southern boundary—the noted "Mason and Dixon's line," which marked the northern limit of slavery. The route is across the Susquehanna river and through the Cumberland Valley, a broad and fertile limestone region of thrifty farms and well-filled barns, spreading over an almost level surface between the two mountain walls of the Kittatinny on the north and the South Mountain. This is another garden region of Pennsylvania, gradually curving around between the ranges from the west to the south-west, and it contains many flourishing towns. It was the vast agricultural wealth of this fertile region, which stretches down to and across the Potomac, where it becomes the equally noted "Valley of Virginia," that tempted the Confederates to make their northern invasion over its rich farms in the summer of 1863 that closed with the great battle. The railway, after crossing the Susquehanna in full view of the splendid gap where the river breaks through the Kittatinny, and just below the "Camel's-back-bridge," runs for 11 miles across the rich farm land to Carlisle, the chief town of the Cumberland Valley. Here

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is located the Government Indian Training School, where for eight years past the boys and girls have been brought from the far western tribes to be taught the arts and methods of civilization, and over a thousand have already been instructed. On the railway train several of these Indian children appeared with their straight hair, round swarthy faces, and high cheek bones, dressed trimly, and showing the surprising effects of a civilized education in humanizing their features and modifying their nomad peculiarities. The railway then branches off southward over the Gettysburg line, which goes through Mount Holly Gap, a wooded defile of great natural beauties obligingly made in the South Mountain by a winding stream, and, after rising to a thousand feet elevation, it passes this range of broken and rounded timber-covered hills that run irregularly across the country and divide the Cumberland from the York or Susquehanna Valley to the southward. The railway has sharp curves, and crosses tall trestle bridges in the hilly region beyond the ridge, which makes picturesque scenery, and when the country is partly smoothed down into somewhat gentler slopes Gettysburg is approached upon a rolling plain, bordered by parallel ridges of hills. The railway runs into town over the first day's battlefield of the great contest, and the earliest warning of the historic ground is given by the fine monument of the "Massachusetts colour bearer," who stands upon a slope alongside the line holding aloft the flag of the Thirteenth Massachusetts Regiment, marking the spot where he fell at the opening of the terrible fight.

The town is not of much pretensions, having 3,000 population living in roomy and comfortable, though generally plain, dwellings, on streets that cross at right angles with a centre square. The

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town is the seat of two of the most prominent educational institutions of the Lutheran Church in America—the Pennsylvania College and the Lutheran Theological Seminary; but it has grown little since the great battle, which gave it unending fame. The battlefield is situated mainly to the southward of the town, and, topographically, it is the best representative field of the American war, being the plainest marked by the configuration of the ground, and the most completely restored to its original condition. The greatest pains are taken to preserve this famous battlefield, and the work is in charge of an organization known as the "Gettysburg Battlefield Memorial Association," which has completely marked the lines of the contending armies, extending over a surface of about 25 square miles, has acquired the ownership of the most important parts of the field, places and cares for monuments and cannon showing the position of each organization in both armies and the various batteries, and has opened avenues making all points accessible. Already over £100,000 has been expended by the general Government and the various States in work connected with the preservation of this historical landmark, and as much more money is voted which is not yet expended. Fully a hundred monuments, many of them of great artistic merit, are now in position, and 80 more are being prepared in different parts of the country. These are chiefly northern gifts, but there are some southern monuments, and the Confederates are showing a good deal of interest in the work of preserving Gettysburg, which is now visited by a constant stream of tourists from all parts of the world. The three days of combat at Gettysburg were among the most hotly contested of the war, and in the actual numbers engaged made the largest

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battle—about 80,000 men being engaged on each side, while the casualties reached 50,000.

To get an idea of the military campaign which culminated in this great battle, the reader must recall the configuration of the ground in Central Pennsylvania, caused by the long parallel curving ridges and the deep intervening valleys of the Alleghany Mountain range. The Cumberland Valley in its prolongation beyond Carlisle to the Potomac river has two prominent towns—Chambersburg, in Pennsylvania, and Hagerstown, in Maryland. To the southward of the South Mountain and eastward from Gettysburg is York. The Potomac river flows just south of "Mason and Dixon's line" and not far from Hagerstown and Gettysburg. I have mentioned the parallel ridges of hills bordering the plain on which Gettysburg is situated. About a mile west of Gettysburg is the long "Seminary Ridge," stretching from north to south, with its western slopes washed by a stream known as Willoughby Run. The red-topped cupola of the Lutheran Seminary rising among the trees on the elevation of this long ridge, just west of the town, gives the ridge its name. Stretching irregularly south from the town is another long ridge, parallel to and about a mile east of the Seminary. The southern suburbs of Gettysburg are on the slopes that begin this ridge, and its northernmost eminence is a rounded hill with a flat top, on which is the graveyard for the town, and this named it the Cemetery Ridge. To the eastward is an outlying eminence known as Culp's-hill, and Rock Creek flows at the bottom of the steep eastern declivities of the ridge and this hill. These two formations make the northern end of the ridge bend sharply around to the eastward, in shape not unlike a fish-hook. At the bend of the hook is the ceme-

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tery, at the barb is Culp's-hill, and down at the southern end of the long straight shank, with an intervening rocky gorge called the Devil's Den, nearly three miles from the cemetery, are two rounded, elevated, tree-covered peaks formed of crags and boulders, called Little Round Top and Big Round Top. These two ridges, with the country adjoining the two streams that wash their outer sides, made the battle ground, the fighting being across the intervening valley of rolling farmland and around to the north and east of the cemetery and Culp's-hill. Nowhere does the configuration of the ground display a battlefield to better advantage.

In the elation throughout the South which followed the Confederate victory at Chancellorsville in May, 1863, was found the origin of the invasion of Pennsylvania. Notwithstanding the severe loss caused by the death of Stonewall Jackson, the Southern army were in high spirits and bent upon an aggressive campaign. It is related that General Lee, in the latter part of May, made a requisition for rations upon the chief of the Bureau of Subsistence at Richmond, and the reply was, "If the General wants provisions, let him go and look for them in Pennsylvania." This answer typified the Southern feeling, and Lee resolved upon a northern movement so as to take the Union army out of Virginia, and carry the war into the enemy's country. He gathered all his available forces—about 100,000 men—near Culpepper, in Virginia, some distance from the Potomac, and early in June had there the largest and best organized and equipped army the Confederates placed in the field during the great contest. It included 10,000 cavalry, under J. E. B. Stuart, and the infantry and artillery were formed into three corps under Longstreet, Ewell, and A.

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P. Hill. From Culpepper a slow and carefully-concealed movement began northward towards the Potomac. General Hooker, who commanded the Union army then encamped along the Rappahannock river, opposite Fredericksburg, heard of this after some days, and also began moving northward, on a line parallel with, but eastward of, Lee, and having the Blue Ridge between them. An outlying Union force of about 15,000 was guarding the Valley of Virginia south of the Potomac, and these were attacked and defeated by Lee's advance on June 15, while several subsequent cavalry raids developed a most defenceless condition across that river. Lee then crossed the Potomac and made a rapid movement up the Cumberland Valley, his cavalry overrunning all the adjacent country east of the South Mountain, and doing much damage. The Potomac was crossed June 22 to 25, and the Confederates concentrated at Hagerstown. Hooker did not wholly cross until the 28th, and then a northward race began, with Lee considerably in advance, although moving in the outer circle of the gradually bending Cumberland Valley, while the Union troops moved on the shorter line of the inner circle. Hooker was mistrusted at Washington, where the Government was in some trepidation, and he had previously asked that Harper's Ferry, on the Potomac, might be abandoned, and its garrison of 10,000 men added to his army. This was positively refused, and Hooker being displeased resigned command of the forces, and was succeeded by General George G. Meade, who thus on the eve of the battle became Union commander at Gettysburg. When Meade assumed command on June 28 he was in the neighbourhood of the Potomac crossing, and Ewell, with Lee's advance, had marched up the Cumberland Valley to

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Carlisle, and was preparing to push on to Harrisburg, while Longstreet and Hill, with the main body, were at Chambersburg. There was practically nobody to oppose them.

These movements had carried Lee far from his base into the enemy's country, when he learnt that the Union army was north of the Potomac and in pursuit. He became fearful that his rear might be attacked, and perceiving that the Northern invasion could not be carried further until he had crippled his pursuers, he determined to concentrate his whole force in the direction of the enemy. Fixing upon Gettysburg as the point of union, Ewell was ordered to turn southward from Carlisle, and Longstreet and Hill eastward from Chambersburg and marching through the various passes in the South Mountain to get into position for attack. The advance guards, which had overrun the country beyond York to the Susquehanna, were all called back. The various towns had been levied for assessments, but responded very meagrely, and Chambersburg was burnt. When Meade, who had just assumed his new command, heard of Lee's changed tactics, his cavalry advance, under Buford, on June 30 had reached Gettysburg, and encamped west of the town, two brigades of cavalry, with their pickets, being thrown out across Willoughby Run along the roads leading to the mountain passes through which the Confederates were coming. Meade's marching columns stretched southward 40 miles. Fearful of the risk of this extended formation, he determined to meet the new movement by withdrawing the advance and hurrying forward the rear, concentrating along a strong defensive position upon the Pipe Creek hills in Maryland, about 15 miles south-east of Gettysburg. Lee did not know of Meade's position when he resolved to

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concentrate at Gettysburg, for Stuart with the cavalry had lost communication and went entirely around the Union army to the eastward. With the hostile armies each executing a movement for concentration the battle of Gettysburg began, there being three days of fighting.

The opening day was July 1. Buford had extended a thin line skilfully around west and north of Gettysburg to make an apparently imposing array. Ewell was coming on the road from Carlisle, and Hill on other roads from the north-west and west. Reynolds, with the Union infantry advance, had reached Gettysburg. The cavalry began the action about two miles north-west of the town, and Buford watched the movements from the elevated cupola of the Seminary. Reynolds, who commanded Meade's right wing, hurried forward to support the cavalry, and almost at the opening of the battle was shot by a Confederate sharpshooter, and died instantly in the edge of a grove near Willoughby Run. Meade thus lost one of his best commanders. Howard succeeded Reynolds, and each side hurried forward troops. At first the Union forces were superior, and for a long time they checked the enemy's advance, capturing many prisoners. But the Confederates were the most speedy of movement, and soon Hill and Ewell got 30,000 men into action, overpowering Howard, who had less than half that number, and he was driven back in confusion through Gettysburg, losing a large part of his force. With losses numbering 10,000 the remnants of the Union advance abandoned the town, and retreated southward to the cemetery. Here had already been hastily fortified a strong position on the Cemetery and Culp's-hill, manned by fresh troops who had been brought up. The advancing Confederates captured the town, and

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their left wing under Ewell extended far around to the eastward, and from that direction confronted the new Union position on Culp's-hill. Meade, who was 15 miles away at Pipe Creek, where he had intended to concentrate, hearing of the fighting and of Reynolds's death, sent General Hancock forward to Gettysburg to take command there. Hancock, on arriving, saw at once that the Cemetery Ridge was the place to give battle, and the suggestion being adopted by the commander, orders were given to move forward all the troops. Lee, after the Union retreat and the capture of the town, had suspended most of the active operations until he could get his army up, and the afternoon and night of the 1st were mainly spent in hurrying forward the forces on both sides. Meade had got his troops into position by early next morning, excepting his rear under Sedgwick, which, after a forced march of 35 miles, was got up by afternoon.

The second day was July 2, and early in the morning the bulk of the two armies confronted each other in line of battle. The Union army was posted along the whole line of Cemetery Ridge, their bivouac stretching around the curve of the fishhook, and being three miles long from Big Round Top, on the southern end, up to the cemetery at the bend, and around to Culp's-hill at the barb. Lee's army was stretched for over two miles along Seminary Ridge to the westward, with most of it concealed behind a fringe of woods crowning the brow of the long ridge. The Confederates also occupied Gettysburg, north of the cemetery, and Ewell's corps was around to the eastward and stretched along the foot of Culp's-hill two miles away. The armies were nearly equally matched. In the long intervening valley between the ridges, and on the ravines and slopes

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of Cemetery Ridge and Culp's-hill, the subsequent actions were fought. Lee evidently under-estimated Meade's force, not believing that his army had been all brought up, and he determined upon an attack. Longstreet was to assail the Union left at the Round Tops and northward, and when the noise of the battle gave notice that the conflict had begun Ewell was to attack Culp's-hill, the extreme Union right. The Confederates were quick in movement, and endeavoured to capture the two Round Tops, particularly the Little Round Top, whence they could have enfiladed the Union line. The struggle for this was bloody, but the Unionists held it. General Sickles, who commanded the line northward of Little Round Top, where the ridge fell off into the valley, thought he could improve his position by advancing to the Emmetsburg road, about half a mile towards Seminary Ridge. This made a broken Union line with a portion thrust out in a dangerous manner, which the enemy quickly discovered. They fell upon Sickles in front and flank, and almost overwhelmed his line in the "peach orchard," driving it back to the adjacent "wheat field." The conflict was hot, reinforcements were poured in, and the orchard and wheat field became slaughter-pens, in which thousands were killed. The Confederates drove Sickles out of the "peach orchard," he being dangerously wounded, and his corps was almost cut to pieces, losing fully half its numbers. Ewell was dilatory in movement, the adverse winds carrying the noise of the battle away from him, but he finally attacked Culp's-hill and effected a lodgment, the number of its defenders being weakened by those drawn off to reinforce Sickles. The Union guns on Little Round Top ultimately cleared the wheat field, and when night came the combatants rested after fierce

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fighting, which had decided nothing, but had inflicted over 10,000 losses upon Meade's army. Lee was inspirited by his partial successes, and determined to renew the assault next day, still under-estimating the strength of his foe, and placing great reliance upon the fact that only half his own troops had been engaged.

Upon the third day, July 3, Meade began an offensive movement early in the morning which drove Ewell off Culp's-hill, and this advantage, which Lee did not hear of, proved of great importance. Lee had an idea that the Union centre was weakened, and he formed a plan for an attack in front, aided by a cavalry movement around the Union right flank to attack the rear, and follow up the supposed advantage Ewell held on Culp's-hill. To give time for J. E. B. Stuart with the cavalry to get around the flank, the attack in front was not to be made until afternoon. Meade got all his troops well in hand, ready to concentrate on any threatened point, and both sides spent the morning in preparation, which consisted mainly of getting cannon into position. Lee placed 120 guns along the crest of Seminary Ridge, but Meade could not get as many into position, as much of Cemetery Ridge was too rugged to permit of the movement of cannon. He confronted Lee with 80 guns, in the cemetery and southward along a low and irregular stone pile which formed a sort of rude wall alongside the Taneytown road, leading southward from Gettysburg. Meade had three times as many cannon, but could not get more into effective position. The battle began about 1 o'clock, when the Confederates opened fire, and the most terrific artillery duel of the war followed. The Confederate fire was murderous, dismounting many of the Union guns, and was so rapid that six guns were discharged every second. The infantry

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lay low, however, behind the crest of the ridge, and thus suffered only slightly. This fire was intended as a preparation for the assault, and after two hours of deafening cannonade, General Hunt, the Union Chief of Artillery, gradually suspended fire, desiring to let his guns cool, and also to see what Lee was going to do. About this time the sharp observers on the left of the Union line detected the formation of a charging column opposite the centre, and word was quickly transmitted, so that Meade made preparations to resist it. Lee, supposing the Union batteries had ceased reply because they were silenced, and that their infantry must be demoralized, then ordered the grand attack of the day. This was Pickett's celebrated charge, a force of 14,000 men, with brigade front, advancing across the intervening valley from Seminary Ridge to assault the Union position on the Cemetery Ridge. They had a mile to go and moved swiftly, but before they got half way across all the Union cannon, from Little Round Top up to the cemetery, along the entire line, had opened upon them. They directed their attack for an umbrella-shaped clump of trees at a low point in the ridge, where the stone walls made an angle with its point towards them, and in marching exposed their flank, which subjected them to an enfilading fire. The result was terrible. The grape and canister ploughed great furrows through their ranks, which were quickly closed up. Hancock commanded the portion of the Union line where the attack was delivered, and when the column came within 300 yards musketry fire was opened. Pettigrew's brigade streamed back in disorder, but Pickett's advance pressed steadily forward, although thousands had fallen.

This advance was led by General Armistead on foot, who with about 100 followers leaped over the

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stone piles at the angle to capture the Union guns. Lieutenant Cushing, mortally wounded in both thighs, ran his last serviceable gun towards the wall, and shouted to his commander, "Webb, I will give them one more shot." He fired his piece and died. Armistead put his hand on the cannon, and waving his sword, called out "Give them the cold steel, boys," and, pierced by balls, he fell dead alongside Cushing. Both lay near the clump of trees about 30 yards inside the wall, and their corpses marked the furthest point to which Pickett's advance penetrated the line. A hand-to-hand conflict ensued, the Confederates were overpowered, and their decimated ranks retreated in disorder. The slaughter had been dreadful, and hundreds held up their hands in token of surrender. Not one-fourth of that gallant charging column, composed of the flower of the Virginia troops, escaped. All the others were killed, wounded, or captured. Stuart's cavalry failed to co-operate, because they unexpectedly met the Union cavalry under Gregg about four miles east of Gettysburg, and a battle ensued which prevented Stuart's turning the flank. Meade, when the attacking column of Pickett had been routed, ordered a general advance, which drove back the enemy, and thus the contest closed. The Confederates lost 16,000 and the Unionists 3,000 in this third day's battle. Lee fully expected that Meade would follow up his advantage with an attack, and awaited it during the night. Meade rested on the field, and upon the morning of July 4 held a council of war, which decided to remain quiet for a day and await the development of the enemy's plan. But Lee had already decided upon retreat, and was sending his trains and wounded south-west through the mountain passes towards Hagerstown. Before night, as is usually the case

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after great battles, a heavy rainstorm began, under cover of which Lee made a swift retreat, leaving a strong rear guard to defend the mountain passes. Meade did not discover this until later, and then followed. Although the rains had swollen the Potomac, and Lee was compelled to intrench his position while awaiting the subsidence of the flood before he could cross, Meade felt that his force was too weak for an attack, and Lee finally escaped over the river. This retreat from Gettysburg by Lee began on the same day that Vicksburg was surrendered to Grant, and they are the two joint events marking the beginning of the downfall of the Confederacy, which was afterwards able to do little more than conduct a defensive campaign.

This great battlefield of Gettysburg is now a vast expanse of hill and vale, with alternating forest, corn and grass fields, dotted over with monuments and marking posts designating the positions of the two armies. Nearly a quarter of a century after the contest I made a survey of the field as it exists now with time and care softening the asperities of war. Going southward from Gettysburg to Cemetery-hill, "Jenny Wade's house" is on the roadside. She was the only woman killed in the battle, and was accidentally shot by the Confederates while baking bread, it was said for the Union troops. Mounting the Cemetery-hill beyond, its strength as a defensive position is at once recognized, the declivities falling off abruptly on almost every side. Here guns were placed protected by hastily-constructed lunettes, and guns and lunettes are now there in the identical positions, with monuments recalling the locations and achievements of the regiments holding the place. This rounded hill stands as a prominent landmark overlooking the town and surrounding country. The cemetery was then a

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little village graveyard, its chief tomb being that of James Gettys, after whom the town was named. The greater part of the hill outside the graveyard then was rough and rocky, but the Government took a tract of 17 acres and made a national cemetery for the interment of the dead soldiers who fell on the field. Here lie 3,512 bodies, of whom nearly 1,000 are the unknown dead. A magnificent monument stands beside this mass of graves, which are arranged in a semi-circle. The figures of War, History, Peace, and Plenty sit at the base of the shaft, which is surmounted by a statue of Liberty. The greensward has the finest shade trees, chiefly evergreens, scattered over it, and the rough hill which was the centre of the Union line of battle has been converted into a most charming place. This cemetery was consecrated during the year following the battle, and in the services President Lincoln made his famous "twenty-line address," of which the *Westminster Review* said—"This oration has but one equal, in that pronounced upon those who fell during the first year of the Peloponnesian War; and in one respect it is superior to that great speech. It is not only natural, fuller of feeling, more touching and pathetic, but we know with absolute certainty that it was really delivered. Nature here really takes precedence of art, even though it be the art of Thucydides." The formal oration in consecrating the cemetery was delivered by Edward Everitt. The President was requested to say a few words by way of dedication. It is related that he drew from his pocket a crumpled piece of paper on which he had written some notes, and then he spoke with almost inspiration :—

Fourscore and seven years ago our fathers brought forth upon this continent a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal. Now we are engaged in a great civil war, testing

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whether that nation, or any nation, so conceived and so dedicated can long endure. We are met on a great battle-field of that war. We are met to dedicate a portion of it as the final resting place of those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this. But, in a larger sense, we cannot dedicate, we cannot consecrate, we cannot hallow this ground. The brave men, living and dead, who struggled here have consecrated it far above our power to add or detract. The world will little note nor long remember what we say here, but it can never forget what they did here. It is for us, the living, rather to be dedicated here to the unfinished work that they have thus far so nobly carried on. It is rather for us to be here dedicated to the great task remaining before us—that from these honoured dead we take increased devotion to the cause for which they here gave the last full measure of devotion—that we here highly resolve that the dead shall not have died in vain—that the nation shall, under God, have a new birth of freedom, and that government of the people, by the people, for the people, shall not perish from the earth.

From the cemetery is seen the red-topped cupola of the Lutheran Seminary, over a mile away across the intervening valley, the most conspicuous landmark of the Confederate line. To the north-east is Barlow's knoll, now a grain field, where the wounded Barlow fell into the enemy's hands, and the Confederate General Gordon, in the midst of the battle, succoured him and sent a flag of truce through the lines to bring his wife to nurse him, thus saving his life. Twenty years later, Gordon and Barlow accidentally met, and recalled this great service which cemented their friendship. The "Grand Army of the Republic" has its annual encampment every July on the Cemetery-hill. Off to the south-east, covered with timber, is Culp's-hill, protruding eastward beyond the ridge. It is strewn with boulders, and its trees to this day show marks of the fierce fighting. It was from this hill that the terrific cannonade was poured into the "Louisiana Tigers" which broke

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up their attack upon the cemetery, The 2d Maryland (Confederate) Regiment have their monument and marking stone on Culp's-hill, showing the point to which they advanced, when on the second day they got possession of part of this natural stronghold. Out of the south-eastern slope of the hill flow Spangler's Springs, where it is said that on the morning of that second day, when both lines of battle were formed and this was neutral ground between them, the soldiers from both mingled peacefully to get water. Southward, the Emmettsburg road leads right over the valley that was the hotly-contested second and third days' battle ground between the ridges. It gradually diverges from the Union lines, and crosses the level fields over which came Pickett's famous charge. Monuments, some being of great merit, line this road. At the right hand of General Sickles's line, which was so vehemently attacked, is the monument of the First Massachusetts Regiment, the finest on the field. It represents the landscape view of the enemy's line as seen from the advanced position on which these troops stood. This is most exquisitely carved in the granite, and a soldier stands, rifle in hand, keenly looking for the foe. This splendid picture is cut upon a block weighing many tons. That war-like landscape is a quiet pastoral scene to-day, with cattle feeding and birds singing. The front of Sickles's advanced line was composed largely of Massachusetts troops, and that State has liberally scattered its beautiful monuments along this road, which was the Union line most of the distance to the "peach orchard."

In the fierce fighting of this peach orchard Sickles lost a leg. The line bends sharply back around the orchard, and here the attack was made on both sides. The greatest care has been taken

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to replant peach trees as the old ones fall, and here are monuments of exquisite finish, representing riflemen ready to fire and other appropriate emblems of active warfare. Massachusetts was almost the first State to begin the work of marking the positions held by the troops, and nearly every regiment and battery has a fine monument. The other States, however, are emulating the example. Alongside the peach orchard is the "wheat-field," now a grassy meadow, hardly to be realized as a scene of such fierce fighting and terrible slaughter. We then go down among the crags and boulders into the "Devil's Den," a ravine through which flows a stream coming from the orchard and wheat-field, and separating them from the vast rocky eminences of the Round Tops that tower beyond it. The faces of the rocks bear many bullet marks, for they flew about numerously on the eventful second day in the contest to carry Little Round Top, which is a pile of beetling sandstone crags reared high above the ravine. The Devil's Den is now devoted to the peaceful pursuit of photography, and the bullet-marked crags form an excellent background. The sloping fields stretching up the stream above the Den are known as the "Valley of Death," and were literally bathed in blood. Among these rocks some of the monuments are appropriately made of the boulders that are so numerous. Mounting Big Round Top by a toilsome path among the rocks, an elegant view is given from an observatory over the surrounding country for many miles. The hill has tall timber growing, which is preserved as it was in the battle. Gettysburg is seen more than three miles northward, behind the cemetery and its monument and waving flag. All the way between the lines held by the contending armies can be traced, and we look down

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from above into the fatal peach orchard, wheat-field, and Devil's Den, where Sickles's men were slaughtered. The southern view stretches far over Maryland and Virginia, the entire country being now a broad expanse of cultivated fields, with patches of forest interspersed. Coming down again and crossing an intervening ravine, we climb the less elevated heights of Little Round Top, which were the scene of stubborn charge and counter-charge and much bitter fighting. Among the crags on the summit stand cannon to represent the battery that was dragged up there to hold the place, and the monument of the Ninety-first Pennsylvania Regiment which supported the guns. The steep declivity in front goes sharply down to the Valley of Death, which spreads off to the Devil's Den on the left. The peach orchard and wheat-field—now the greenest grass—are beyond. To the westward is the long fringe of timber marking the Confederate position on Seminary Ridge, and far off to the north waves the flag over the cemetery which was the centre of the Union line. From this spot, which was the left of the Union line, is given a charming view of almost the entire field of Gettysburg stretching at our feet. The steep side of Little Round Top has carefully preserved upon it the long piles of boulders which the soldiers hastily built for breastworks, and all about are monuments marking the different positions.

A park has been formed by the railway alongside of Little Round Top, and it is a popular resort for excursion parties, who have only to mount the hill to get a place to see the great battlefield. Many thousands come here during the spring and summer, and the town frequently has to take care of crowds numbering three or four times its population. Nearly everybody climbs

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the Round Tops, and then they return north along the avenue opened upon the Union line of battle, which is bordered with monuments. The lines of breastworks are preserved, and they finally bring us to the point upon lower ground where the stone walls angle so that a gore in the line, as it were, is thrust out towards the enemy just beyond a little grove of trees whose foliage expands much in the form of an open umbrella. Here the Twentieth Massachusetts Regiment (whose colonel, Paul Revere, was killed) have brought a huge boulder of conglomerate, weighing 19 tons, from their New England home, and set it up as their monument. This rounded, pudding-shaped stone, upon which many of them had played in early youth, marks the most important spot on the battle-field. The umbrella-shaped grove of trees alongside was the object towards which the march of Pickett's men was directed in the famous though terribly destructive charge. The angle of the wall not far away is where Armistead and his handful of supporters got over the lines and had their short and desperate contest closing the battle. This was the lowest ground on the line, the ridge being higher and more readily defended both north and south; and hence it was selected as the point of attack, upon which for two hours the greater part of the terrific cannonade was directed from Seminary Ridge. The fields in front are level and open, and across them came the marching column of Confederates, receiving a galling fire in front and flanks. There was nothing to shield them, and the gallantry of the movement has never been exceeded, although its expediency, in the face of such risks, has always been criticized. The charge might, however, have succeeded had the flanking cavalry movement been successful, upon which Lee depended to attack the

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Unionist rear. The cavalry battle nearly four miles east of Gettysburg, which stopped this movement, is also marked by a monument erected at the centre of the fight, now a potato field. But the tablet that is regarded with most interest at Gettysburg is upon the scene of the first day's battle, a short distance north-west of the town. Just inside the edge of a grove of trees, which is carefully preserved, stands a plain granite block on the spot where General Reynolds fell. He was the chief Unionist commander next to Meade, and is regarded from his untimely death as the hero of the battle on the Northern side, as Armistead is on the Southern. Each died in action, Reynolds hurrying forward troops, and Armistead leading a gallant but hopeless charge. The former was a Pennsylvanian and the latter a Virginian. Yet the animosities of that exciting time have been so far healed that Pickett's surviving Virginians visited Gettysburg this summer as the guests of the Pennsylvania soldiers who repulsed their famous attack.

XXIV.—THE BLUE JUNIATA.

Beyond Harrisburg the originally-constructed line of the Pennsylvania Railroad secures its westward route from the Susquehanna river to the main range of the Alleghany Mountains by going up the beautiful valley of the Juniata river. Originally the journey was made in a combination of rail-cars, stages, and canal barges. Fifty-one years ago David Stephenson came over here, and in 1836 he wrote that he travelled the entire distance from Philadelphia across the Alleghany Mountains to Pittsburg, then 395 miles by the route of the State works, in 91 hours, at a cost of

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£3, or about 2d. per mile; and that 118 miles of the journey, which he calls "extraordinary," were performed on railroads, and 277 miles on canals. This line over the mountains was operated nearly 20 years, and was a main route of travel between the seaboard and the West. The railroad from the Delaware river to the Susquehanna was the first stage; then a canal was used along the Juniata to Hollidaysburg, at the eastern base of the mountain; a portage railroad, made up of inclined planes, carried the route over the Alleghany Mountain from Hollidaysburg to Johnstown; and another canal led from Johnstown down the Conemaugh and Alleghany rivers to Pittsburg. The method of goods transport was by making canal barges in sections, which were run upon railway trucks on the land, and joined together to make boats for the canals. The portage railroad was an ingenious device, which crossed the mountain at Blair's Gap, 2,326ft. above the sea level, and was 36 miles long. It had ten inclined planes, five on each side of the mountain, each making a rise, varying by the nature of the surface, from 130ft. in the smallest to 307ft. in the largest. The steepest face of the mountain is towards the east, and the railway from Hollidaysburg to the summit, though only ten miles long, rose 1,398ft., while on the western slope the descent in 20 miles was but 1,172ft. The gradients varied from one in ten to one in 14, and each plane was worked by a 30-horse power engine; a descending and an ascending train being attached to the cable at the same time, and three loaded wagons, each carrying three tons, being considered enough for a single draft. Twenty-four wagons, carrying 72 tons, could go over a plane in an hour, and this was ample, as the traffic was not over 300 tons per day. Mr. Stephenson wrote that he

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started from Hollidaysburg at 9 in the morning to go over the portage, reached the summit at noon, stopped there an hour, and arrived at Johnstown at 5 p.m., seven hours being occupied in going 36 miles. The portage was abandoned in 1854, when the Pennsylvania Railroad was completed over the mountain. Remains of the old canals and of the portage, which in its day was regarded as a most marvellous work, are seen all along the route from the Juniata westward. They cost the State of Pennsylvania nearly £4,000,000.

The Pennsylvania Railway upon leaving Harrisburg runs northward along the bank of the Susquehanna river for a few miles, and passes extensive railway yards north of the town, with their aggregations of cars laden with goods of all kinds, where the Pennsylvania system assorts its traffic for the main routes east and west or the branch lines north and south along the Susquehanna, or leading in different directions into the interior. Soon the line approaches the great wall of the Kittatinny mountain range, standing up in front, through which the river breaks at Dauphin Gap, where the range is notched down magnificently for the stream to make its passage, with the distant blue ranges of the Alleghanies seen through the opening beyond. They are long ridges of rounded-topped and tree-clad peaks stretching far across country. The railway curves grandly around to the westward at Rockville, just below the gap, and crosses the Susquehanna upon a bridge two-thirds of a mile long. The water is full of rocks and shallows, and has little grass-covered islands scattered about, and the pebbly bottom can be plainly seen as the current swiftly bubbles over it. Splendid views are given from this bridge both up and down the river; and, reaching the western bank, the railway turns northward again, runs through the gap, and

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past ridge after ridge auxiliary to the Kittatinny, which have been broken down by the river to make its passage. The Northern Central Railway comes up from Baltimore, keeps company for a short distance, and then crosses the river upon a bridge above the gap for its long northern journey into New York State. A broad cove makes the Pennsylvania line sweep around to the westward, and it thus begins the mountain passage taking it through 200 miles distance among and across the various Alleghany ranges, displaying some of the most magnificent scenery on the American Continent. This ride opens a region of historical interest, where in the colonial days there were frequent Indian frontier wars and sturdy battling with the savages by the early settlers, who were usually of the hard, Scotch-Irish race, who make such good pioneers in a new country. The railway runs through Perry County, lying between the Kittatinny range and the next western ridge, the Tuscarora Mountain. We pass Duncannon and its iron mills, and then, leaving the Susquehanna, start up the "beautiful blue Juniata," which has been the theme of more song and romance than almost any other American river.

For 100 miles this river of magnificent scenery flows from the eastern face of the main range of the Alleghanies, breaking through ridge after ridge, and presenting a superb series of landscapes and mountain views. Its route is a succession of bends; now running for miles north-east along the base of a towering ridge, and then turning east or south-east to go through it by a romantic pass. The Pennsylvania line follows the winding river closely, and its glens and mountains and ever-changing views are an almost endless panorama. Massiveness, softness of outline, and variety are the peculiarities of the Juniata scenery. The

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river is a small one, not carrying a great volume of water in ordinary seasons, and it seems to have made its various mountain passages and overcome the obstacles in its path as much by strategy as by power. At times it dashes boldly against the wall and rends it asunder, and then it winds around the obstruction or creeps warily through secluded glens. At various places the mountain ranges appear to have retired from the stream, leaving only isolated hills near it. But the rended mountains, towering tree-covered slopes, and sentinel-like hills have all been moulded into rounded forms by the action of the elements, leaving few naked rocks or abrupt precipices to startle or to mar the regularities of the natural beauties of the scenery, everywhere clad in the green foliage of nature. The valleys and much of the slopes are cultivated, the parti-coloured fields running up to the fringe of forest trees crowning the summits of the ridges. Every change of sunshine or shadow and the steady progress of the seasons give new tints to these glens and mountains. In the deeper valley of the river almost every tree has its creeping vine, and these are often festooned in garlands over several. Every tint of green is given by the varying foliage. The railway at some places crosses broad and well cultivated valleys, while at others the ravine is so narrow that the route has to be carved out of the overhanging rocks, or a tunnel pierces the mountain spur that blocks the way. The river is so tortuous in some cases that the roadway has to cross and recross upon bridge after bridge, so that every moment presents a new scene to the swift moving train. This renowned river, in its course among these mountain ranges, passes through and displays nearly the whole of the geological formation of Pennsylvania. The primary rocks are

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to the eastward of the Susquehanna, and the bituminous coalfields begin on the western Alleghany slope, so that the river cuts through a rock stratification something like six miles in thickness. As we glide along upon a sweltering day, a summer thunderstorm comes up with little warning and deluges the train. The locomotive, however, rushes through the torrent, with the sharp thunder-claps reverberating among the hills, and quickly the shower passes, and bright sunshine follows, with the vegetation green and pleasing and the atmosphere freshened by the storm. Ahead of us appears the Tuscarora Gap where the mountain seems to open just enough to let the river pass through, and, entering the gorge the huge tree-clad hills stand up on either hand giving, as the fleecy clouds left by the storm enwrap their summits, the bluish-purple tinge that is the distinguishing feature of the river scenery, and is often seen among the hills of Scotland. We rush by more iron furnaces, with their outlying stacks of pig iron and slag heaps, and pass the little town of Newport, the place of earliest settlement in this region, standing on the picturesque Buffalo Creek, where, at the beginning of the present century, the entire place consisted of four small log cabins.

This was the land of the Tuscarora Indians, one of the tribes of the "Six Nations," and the railway and canal, both hugging the river bank, enter Juniata County, which is enclosed between the Tuscarora range and the next western ridge, the Turkey Mountain, which rises on the northern bank of the river. This noted and beautiful Tuscarora valley was a region of terrible Indian conflicts and massacres in the early days. The first fort built there by the whites was burnt by the savages, and every settler either killed or carried off into

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captivity. Here also occurred the "Grasshopper war", between the Tuscaroras and Delawares. These rival tribes had villages on opposite banks of the river, and one day the children got into a dispute about some grasshoppers. The women espoused their cause, and this drew in the men, a bloody battle following. Passing the town of Mifflin, another mountain range stretches across our path—the great ridge formed by the Shade and the Blue Mountains. The river flows for miles through a long and narrow gorge between them, and its course as we ascend is bent around towards the south-west. These are the famous "Lewistown Narrows," the railway running upon one river bank and the canal upon the other as they pass through this deep and romantic canyon. At intervals a glance is momentarily got at a beautiful vista view as we quickly pass some pretty glen, while the cloud shadows slowly move over the dark green mountain sides. Broken, slaty stones cover much of the slopes of the hills, and as we emerge from the gorge into the broader valley above, the thriving borough of Lewistown nestles at the base of another great mountain, with its steeples rising above the red brick houses. This is a beautiful place, where the Juniata crosses the outlet of the charming Kishicoquillas valley, coming down from among the hills to the northward. Here lived the famous Logan in the last century, the chief of the Mingos and Cayugas, the most renowned Indian of Pennsylvania, whose fame is on a par with Powhatan and King Philip, and whose speeches, preserved by Thomas Jefferson, are declaimed by the American schoolboy in probably much better English than Logan ever knew. He was stalwart, of giant mould and nearly 7ft. high. He lived at Logan's Spring, in the valley, and was the friend of the white man.

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When this frontier, however, became too well settled for him to longer find the deer upon which he subsisted, selling their skins to the traders, Logan moved westward to the Ohio river, near Wheeling. Here his family was, without provocation, most cruelly massacred, and this turned Logan's love for the white man to an intense hatred. He became an implacable foe, and wreaked terrible and almost indiscriminate vengeance until he was killed in the Shawnee wars beyond the Ohio, having joined that hostile tribe. The "Lewistown Narrows" is the finest mountain pass of the Juniata, the peaks rising precipitously over 1,000ft. above the river, and the ranges stretching more than eight miles, their densely-wooded slopes giving the gorge an appearance of deepest gloom. The site of Lewistown, at the western entrance to the canyon, is one of the most picturesque among the Alleghanies.

The receding hills above Lewistown make a broad valley, enclosed by distant mountain ranges, in which the crooked river meanders with wayward course, the railway crossing and re-crossing it. As we glide over the stretch of farmland, the passengers in the buffet-coach avail themselves of the opportunity of having their little tables set alongside the car windows, and upon them a lunch is spread. The children run about the coach, look briefly out of the windows, and have a good time, the air having been freshened by the summer storm that just passed over us. Then comes along that modern fiend of American railway invention the "train boy," who makes steady perambulations through the coaches at ten-minute intervals to sell fruits, candy, pop-corn, travelling hats, fans, the latest novels, newspapers, photographs, and what not; thus making, as it were, a peripatetic show, kindly provided by the railway to beguile

the tedium of the journey. The persistence of this youth is one of the traits of the country, and whatever happens he is sure to march through the coach every few minutes offering something new for sale, crying his wares in stentorian tones. The broad valley we are crossing has fine farms, and displays much good agriculture, and as we traverse it the dark outline of Jack's Mountain gradually rises in front of us, this being the next western range the Juniata pierces in its outflow. Crossing the winding stream twice to avoid its gyrations into double loops, we go through the village of Mount Union and, turning westward, pass into another gorge. Here, in the early colonial days, John Anderson, an Indian trader, penetrated, and with his companions was murdered by the savages. Hence the name of "Jack Anderson's Mountain" was given the range, and similarly to the ravine; but time is too limited among these enterprising people to permit of such elaborate titles, and therefore they have been shortened into "Jack's Mountain" and "Jack's Narrows." The pass is even narrower than that at Lewistown, and the profusion of broken stones and shingle covering the hillsides is almost appalling. The river contracts as it is ascended, and the limestone strata seem to stand almost upright, and give an excellent opportunity for geological study. This gorge transfers us from Mifflin to Huntingdon County, and off to the southward is the Broad Top Mountain, a region with vast deposits of semi-bituminous coals, to reach which branch lines go out from the main stem, both at Mount Union and at Huntingdon, which we are approaching. Upon the latter line are located the noted Bedford Springs, the chief Pennsylvanian resort for invalids.

Huntingdon, 97 miles west of Harrisburg, is the oldest and largest town on the Juniata. It

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was the ancient "Standing Stone" where the Indians came for centuries to hold their grand councils, and the pioneer white men arrived here in 1754. The town is built of brick, and has a thrifty and business air, and it is the present termination of the usefulness of the canal which has so long kept us company, but which has been abandoned and has fallen into ruin above. The "Standing Stone" of Huntingdon was a granite column, erected by the Indians, about 14ft. high and 6in. square, covered with their hieroglyphics. When the whites came, the Indians, who treasured the stone almost as an idol, carried it away to the westward. This "Standing Stone" is engraved on the city corporation seal, being surrounded by mountains and making an appropriate symbol. Its Indian equivalent of "Oneida" is preserved in the name of a township across the river. Selina, who was the Countess of Huntingdon in 1767 or thereabouts, has the honour of being immortalized in the name of this beautifully-located chief city of the blue Juniata, she having been a benefactor of the University of Pennsylvania, whose provost at that time, Dr. William Smith, afterwards became the proprietor of this town site, and thus remembered her generosity. The whole of this region, and in fact almost the entire Juniata valley, is a producer of iron ores, and furnaces are consequently frequent along the line. Crossing and recrossing the stream, now called the Little Juniata, the railway hews its way among the cliffs and ridges above Huntingdon, through a rough country that gives very little chance for agriculture. Quarries abound, each with its outlying village of comfortable operatives' dwellings, getting out the limestone for the iron furnaces. Bridge after bridge carries the route across the wayward stream, and splendid amphitheatres of

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forest covered hills are presented by the sweeping bends of the constantly-curving rivulet. This is the region of the "Sinking Spring," a remarkable watercourse, which originally appears in a cave, where it comes out of an arched opening with enough water to turn a large mill. Below this mill it disappears underground, and its concealed current can be heard through fissures, bubbling hundreds of feet below. Further on the stream comes again to the surface, flows some distance, and then enters another cave. It passes under Cave Mountain, reappears, and finally flows into the Juniata, probably as remarkable a stream in its mutations as this country can produce.

We have gone steadily up the romantic river until it has dwindled to a small creek. Its route has brought us through range after range, and finally to the eastern base of the main range of the Alleghany Mountains. Here the line turns sharply to the south-west to run along the base of the mountain ridge, and thus it leaves the Little Juniata, the source of which is not far away. At this turning point, where three valleys come together and in a most picturesque situation, is Tyrone, the outlet to the greatest bituminous coal-producing region in America, the Clearfield coal measures. These lie on the slopes of the Alleghanies, to the northward, and branch railways bring down to Tyrone the rich and exhaustless product of these prolific coal pits, and give enormous traffic to the Pennsylvania lines. Tyrone is a railway creation, not yet 40 years old, standing in a romantic situation at the entrance to the Bald Eagle valley, 112 miles west of Harrisburg. Its growth is a type of the rapidly-expanding American railway junction, where swelling traffic attracts a constantly-increasing population. Its three tributary valleys stretch in opposite direc-

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tions—the Bald Eagle Valley going off north-east, the Juniata valley south-east, and the Tuckahoe valley along the base of the Alleghany Mountain towards the south-west. Several branch lines come in at Tyrone, including the Bald Eagle Valley, the Tyrone and Clearfield, and the Lewisburg Centre railways, each bringing its tribute of coals and timber. The Pennsylvania main line continues south-west along the base of the mountain in the Tuckahoe valley to the point selected for its ascent to cross the top of the ridge. We have now come into Blair County, and the line passes more ore mines and blast furnaces, and is laid along the bottom of the valley, between the Alleghany Mountain and the Brush Mountain off to the south-east. The valley broadens into good farmland, and appears to be comparatively well cultivated, although it is so closely shadowed by high mountains. Soon we run into Altoona, which is the model Pennsylvania railway town, with its vast collections of railway shops and cars, 131 miles west of Harrisburg. Halting at the station, we end the romantic ride along the Juniata, with a pause before crossing the main Alleghany mountain range.

XXV.—CROSSING THE ALLEGHANY MOUNTAINS.

The town of Altoona, standing at the eastern base of the Alleghany Mountain range, is probably the most completely representative railway town of America, where so many thriving municipalities owe their origin and growth to the railway system. The men of Altoona are almost all railway servants; its work and its sensations are all of the railway style: and the city itself is entirely

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a recent creation of the Pennsylvania Railroad. That great company originally selected the site, then in the wilderness, for construction and repair shops, and, in one way or another, the entire population of 25,000 are dependent upon the railway for a living. All day and night the trains roll steadily through in almost unbroken procession, carrying the enormous traffic between the Atlantic seaboard and the Mississippi Valley. The hiss of steam and snort of the locomotive, the clanging bell and rumble of the cars, are alike the entertainment and solace of the population, the monotony of this being at intervals diversified by the halt of the through passenger trains to permit the travellers to rush into the railway hotel for a hasty meal while on the wing. The east-bound goods cars, after coming down the mountain, are one after another rolled over the long weigh-scale in front of the hotel porch, the down grade enabling them to move by their own gravity. Two and often more ponderous locomotives are harnessed together to haul the trains up the grade that has to be climbed to the summit of the Alleghany range. From three to four thousand cars will pass through Altoona in a day, and on busy days recently the number has sometimes gone up to 4,500. Over 5,000 men live in Altoona who work for the railway, and there are very few in the place who do not. The shops of the Pennsylvania Company, which embrace in separate groups the largest locomotive building establishment and the most extensive car-construction works in America, cover 123 acres, and besides conducting the repairs for the equipment of the entire railway, they last year built 124 new locomotives and 4,700 new cars. These repairs amount to work upon 3,000 cars per

month. The extensive plant necessary may be imagined when it is known that the Pennsylvania Company has 2,600 locomotives and 95,000 passenger and goods cars in constant use; and that if its wheeled equipment of all kinds, numbering 101,000, were stretched out upon a single line of railway, they would cover a space of 605 miles, or a distance from New York on the Pennsylvania line across New Jersey and Pennsylvania, and half-way over the State of Ohio.

Less than 40 years ago this region was almost without inhabitants, when the railway projectors came along and bought an old man's farm for £2,000 at the foot of the mountain as a site for their establishment. The town is now spread over a long and comparatively narrow strip of ground upon the bottom and sloping sides of the valley, with the railway and its yards and shops along the centre. To the southward, the dark green ridge of Brush Mountain encloses the view, excepting where a notch in it, called the "Kettle," opens a distant prospect of gray mountain ridges behind. To the northward the much higher range of the Alleghany Mountain stretches across the horizon, and extends far away to the south-west, with its series of flat-topped ridges apparently blocking the onward progress of the railway. The sound of bell and whistle and the long line of smokes, seen far down the valley to the eastward, disclose the railway route that brought this settlement into the wilderness. The town itself has a hilly set of streets, with mostly wooden sidewalks, and not very well paved. Where the hills get too steep for ordinary methods of horizontal locomotion, some of these streets do not hesitate to climb stairways, and many of the wooden houses are perched far above the highways leading past

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them. Beyond its great railway establishment, however, Altoona has little to show the visitor.

American railroading, in the close competition of the rival trunk lines, has become largely a problem relating to the swift and cheap transportation of heavy weights. The American locomotive and car grow larger and heavier every year, and more and more work is got out of them. Locomotives are built in the Pennsylvania Company's shops at Altoona weighing 60 tons, and goods cars that will carry a load of 30 tons, and, in fact, these are becoming the standard in the goods traffic. Some of the locomotives perform a vast amount of work. I was shown the mileage record of passenger engine "No. 998," which in 1886 ran 103,981 miles, and the records of several others exceeded 70,000 miles. Of the goods engines, the best record for the year was 61,430 miles, several exceeding 50,000 miles. The 42 acres of locomotive shops and the 76 acres of car shops at Altoona are marvels of industry, neatness, and thoroughness of work. The Americans are wonderful in the ingenuity of their wood-working machinery, and in the car shops hundreds of machines are almost automatically preparing the different pieces of timber used in the construction and repairs of the cars, and are using up vast piles of planks and boards in the processes, cutting over three millions of feet in a month. All the sawdust and shavings made by these machines are immediately carried off through galvanised iron flues by powerful air currents, and are thus led out into bins alongside the boiler-houses, where this refuse furnishes all the fuel used in steam generation. Every piece entering into the construction of a car is made according to standard patterns, thus facilitating both the original construction and repairs. The locomotive shops also

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contain many elaborate and ingenious machines for working in iron and steel, and the skilled engineers who direct the establishment are constantly improving upon the classes of work turned out. There are extensive wheel shops, smith shops, and forges; laboratories and test machines for testing all kinds of supplies, and the great aggregation of buildings is flanked at either end by enormous round-houses for stabling the locomotives when not out at work on the line. The army of *employés* are well-cared for and well paid, and I am told that most of them own their dwellings, which are comfortable houses, it being the ambition of each head of a family in Altoona to be his own landlord. They, and in fact all of the servants of the Pennsylvania Railway, have a "Relief Association," to which each man, and also the company, contributes, providing for the payment of stipulated benefits in cases of sickness, accidents, or deaths. This system has been in operation over a year, and has already provided for more than 10,000 cases, the payments amounting to from £4,000 to £6,000 monthly. It is noteworthy that the deaths are few, and the sickness cases are usually two or three times the number of accidents. For a complete and concentrated exhibition of American railway activity Altoona certainly takes the lead.

This railway town under the shadow of the Alleghany Mountains is about 1,160ft. elevation above the sea, and from it the railway starts upon a gradient of 90ft. to the mile, to climb to the summit. The line is laid south-west along the edge of the ridge, and gradually ascends its slope, winding over high banks and through deep cuttings among the peaks, with the dark Brush Mountain seen afar off across the intervening valley, which gradually sinks as the gradient rises. There are

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some attempts at farming in the bottom of the valley, and its head seems to run far up into the side of the ridge. To secure the necessary distance to overcome the elevation, the engineers have carried the line up one side of this indented valley to its head, where it divides into two smaller glens, with an immense crag standing between them. Little streams flow through each, and below the crag they are dammed to form a pretty lake used as a water reservoir. Having ascended one side of the valley, the railway at this place, by a bend crossing each of the smaller glens by curved embankments, is made to double upon itself, and to mount still higher by running out upon the opposite slope of the valley. This sweeping curve is the famous Pennsylvania "Horseshoe," and the huge jutting crag between the smaller glens, in the face of which the railway curve is partly hewn, is Kittanning Point. Just here is the heaviest gradient of the ascent, 97ft. to the mile, and the exciting scene can be imagined as the train moves along one side of the valley, and the passenger can see the line, with its moving trains over on the other side, and a yawning chasm between. At Kittanning Point is a signal station—a little Swiss châlet, with lawn and flowers, a miniature oasis in this desert of rocks and stunted firs on the rough mountain side. This point was the line of the ancient Indian trail across the Alleghany Mountain, in their laborious portage between the Ohio and Juniata Valleys, and thus closely has the modern railway engineer followed the route of the original road-maker among the red men. The railway, after climbing the southern slope of the indented valley, comes out upon the edge of the mountain again to round it and enter another and higher gorge pierced into the ridge. It is laid along the edges of the cliffs, and finally comes to a

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place of superb outlook—Allegrippus—where the railway is carried by stupendous work along the face of the precipice, while looking backward towards Altoona there is a noble view over the dark green and gray mountain ranges for miles away. Ridge after ridge stretches across the scene far to the eastward, with the hazy horizon closing the picture behind Altoona, whose distant smokes seem far beneath us. The line winds along the side of this second gorge, the mountains apparently sinking as we approach their tops, and patches of timber obstructing the view. The bottom of the gorge is almost hidden among the trees below, and over on its opposite side can be traced the route of the original portage railway. A few rude cabins and an occasional clearing vary the monotony of forest and rocks, while an iron furnace is located almost at the top of the mountain, where coals are mined and coke ovens burning. Thus we come to the summit, and suddenly rush into a long tunnel, 2,161ft. elevation above the sea, pierced through the ridge, which is here about 2,400ft. high, and has colliers' cabins on its very top.

We run through the tunnel from Blair into Cambria county, and halt briefly at Gallitzin, the most elevated station on the Pennsylvania line. This is a mining village of considerable size, named in memory of the prelate-prince Demetrius Gallitzin, of Russia, who came to this frontier in 1799, and laboured for 40 years as a missionary priest among the hardy pioneers, many of whom he induced to come out here from his own land. Cambria county is an elevated table-land between the top of the Alleghany Mountain and the next ridge to the westward, known as Laurel-hill, also including the latter. The eastern ascent of the Alleghany is abrupt and rugged, but the western

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slope is comparatively gentle. Almost upon emerging from the summit tunnel, a diminutive rivulet appears, whose waters go down through the Conemaugh River to the Ohio, and thence through the Mississippi Valley to the Gulf of Mexico. The Pennsylvania Railroad seeks its route down the western side of the mountain and out of the Alleghanies by closely following this Conemaugh Valley. It was at Loretto, five miles from the present railway route, that one Michael M'Guire came to live in 1790, the first settler of Cambria county, his nearest neighbour being Thomas Blair, who lived on the top of the Alleghany Mountain, at Blair's Gap, 12 miles away. These two pioneers about equally divided their time between fighting Indians and wild beasts, and they had gathered a few companions when Gallitzin came as a missionary among them and built a rude log chapel. He spent his fortune in his life-work of building up the town of Loretto, where he attracted a population of 3,000, chiefly Germans and Irish. He died in 1840, and his remains lie in front of the Roman Catholic Church. This settlement was the first nucleus of population in this elevated region, but subsequently the coal and iron deposits attracted the Welsh, and that thrifty and industrious race, coming in numbers, gave their familiar name of Cambria to the county, and founded its flourishing town of Ebensburg, to which a branch railway runs north from Cresson Springs, about three miles from the summit of the mountain.

Cresson Springs, at an elevation of 3,000ft., are a popular summer resort, the attractions being the cool, pure atmosphere and the medicinal waters. The railway has built a fine hotel—the Mountain House—alongside the line, where hundreds of visitors crowd in July and August,

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its conical-topped towers rising above the trees at the back of a pleasant, upward-sloping lawn. Beyond this hostelry the train glides steadily down hill, but upon a gradient not so steep, and in scenery that is much tamer than on the eastern side of the mountain. Coals underlie the whole country, and the stations are chiefly the villages adjacent to coalpits and coke ovens, where long lines of laden cars await transport to market. The line skirts the upper waters of the Conemaugh, which steadily grows into a broader stream. Through wild gorges, around sweeping bends, over high embankments, and into deep rock excavations, the gradually descending railway winds along, and the whole neighbouring region seems to be an almost perpetual coal measure, with outlets from the pits in many hillsides. The line crosses and recrosses the crooked stream bubbling over its rocky bed. At intervals long inclined planes are laid down the mountains to get the coals out, and the colliers' cabins cluster about them, while frequent long coal-laden trains pass upon the eastbound line. As we get further down the broadening and deepening Conemaugh Valley, the scenery becomes more attractive. The hills grow higher, lovely vistas open, and the gorges are deeper. Then we come to the town of Conemaugh, with its iron furnaces and villages on both sides of the river, which finally develop into the larger borough of Johnstown.

A little space of flat land at the junction of Stoney Creek with the Conemaugh was in early times an Indian settlement, known as Kickenapawling. A hardy German pioneer, named Joseph Jahns, built a cabin here in 1791, and from him the cluster of little houses on the river bank at the head of the canal leading down to the Ohio became known as Jahnstown. Then the Welsh miners and

ironworkers came along, and they soon changed the name to Johnstown. Nature carved out this place to enrich these metal workers, and it is not surprising therefore that their mines and furnaces should have grown into the great works of the Cambria Iron Company, the most extensive iron and steel corporation in America. The Conemaugh Valley here is narrow and enclosed by high hills. Another deep valley with the vigorous stream of Stoney Creek comes up from the southward, and there are other glens and gorges, so that the region is practically a series of deeply carved, elongated, narrow, radiating depressions cut down in the table-land. Within and about them are clustered a population of 30,000, all of them dependent in one way or another upon the great iron establishment, which employs some 3,000 men in its various operations. No better seat for this vast industry could have been selected, for in the hill to the westward are the coalpits whose output makes excellent coke, while across the river, in the hill to the southward, are coals, iron ores, and limestone. Climbing to the hilltop north of the river we overlook the enormous works which stretch for a mile along the narrow valley and on both sides of the river, with its aggregation of furnaces, shops, and foundries clustering closely together, with many hundreds of operatives' dwellings spreading far along the valley, and thus making the town, which extends through the narrow winding gorge shut in at the west by Laurel Mountain. Smokes rise and steam jets puff in abundance, with the swift-flowing river sparkling between and beyond; and just where the opposite hillside rises abruptly the Pennsylvania Railroad forms a border with its passing trains. This great establishment consumes in a year 425,000 tons of iron ores, 775,000 tons of

coals and coke, and 150,000 tons of limestone. These 1,350,000 tons of materials are converted into Bessemer rails and merchant steel of various kinds. In its various processes, there are made 400,000 tons of coke and 325,000 tons of pig-iron, the latter being converted into 240,000 tons of steel ingots, which in turn are made into 125,000 tons of Bessemer rails, 36,000 tons of wires, and 60,000 tons of merchant steel of various shapes, an output far beyond any other works in the country. This gives the railways a goods traffic making Johnstown the most important station on the line between Harrisburg and Pittsburg.

This vast Cambria undertaking is the outgrowth of a few small charcoal furnaces, built half a century ago in the neighbourhood of Johnstown. When the Cambria Iron Company was chartered 35 years ago the Pennsylvania line had just been built and the town had 2,000 people. The shrewd Welsh metal workers foresaw, however, that this would become a chief seat of the iron industry, owing to the proximity of the ores and fuel and the railway leading to market. At first bankruptcy and destructive fires burning the mills gave the enterprise a set-back, but the protective system adopted by the Americans during the Civil War and the adaptation of the Bessemer and other improved processes, gave the Cambria Company a great impetus. It now has 11 blast furnaces, most of them of the latest patterns and largest capacity, with its own railways and full equipment, Bessemer mills, open hearth and merchant steel works, rolling mills, and iron factories. The steam generating and puddling are entirely done by the use of natural gas, which costs less than coals, and is economical of labour. This gas, which comes out of the earth in various parts of Western Pennsylvania, through wells at high pressure, is

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one of the modern appliances that have vastly cheapened manufacturing processes west of the Alleghanies. It is led in pipes to the consumers, and is fed under the boilers at Johnstown at a pressure of a few ounces to the square inch. The extensive use of this gas as a steam generator has almost revolutionized manufacturing, besides ridding the atmosphere of much of the clouds of coal-smoke it used to carry. This natural gas comes to Johnstown, through 10-inch pipes, laid underground, from the wells about 40 miles westward, the pressure as it progresses gradually diminishing until it is about 20lb. to the inch at the Cambria Works.

The daily output of Bessemer steel ingots at Johnstown has reached as high as 725 tons, and all grades of steel are also made. The company builds all its own boilers and machinery in its shops, and carefully tests all its own products, and grades them for varying uses according to quality. It owns over 51,000 acres of mineral lands, and has also leased 1,000 acres of the best coking lands in the Connellsville region of Pennsylvania, to the southward, where it has 500 coke ovens in operation. Their coal-mining surface near Johnstown covers 36 square miles. Their ore mines in the neighbourhood yield 75,000 tons, and their Michigan mines 350,000 tons of Bessemer ores annually. Some of the plant is upon an enormous scale. To one row of four huge furnaces are attached 12 Whitwell stoves, and another row of eight gigantic steam-pumps to make the blast, while in front is a battery of 40 boilers. Under these gas-jets burn to make the heat, and one man supervises the whole arrangement, thus dispensing with all other labour. The unskilled workmen about the place are chiefly Hungarians and Poles, who have almost entirely supplanted the Irish at

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heavy labouring work in the States. They get 5d. to 6d. per hour, and work 12 hours daily. These works, spreading a mile along the narrow valley, cover over 100 acres with their buildings, and all kinds of labour-saving machinery aid in the various processes. For the benefit of the army of *employés* there is a fine library and reading room in Johnstown, which is liberally endowed, a drawing school, and also a relief association, supported jointly by the operatives and the company. This association distributes about £5,000 annually for benefits in cases of deaths, sickness, or accidents, upon a similar plan to the Pennsylvania Railroad system. This great company is a type of the predominant industries of Western Pennsylvania—coal mining, coke burning, and the manufacture of iron and steel. It stands at the western base of the Alleghany Mountain, and as the ascent of this mountain began at the best representative railway town in America, so when the summit is passed the descent is closed by the greatest plant in America for making iron and steel.

XXVI.—THE BLACK COUNTRY OF PENNSYLVANIA.

Western Pennsylvania beyond the Alleghany mountains is a veritable "Black Country." The whole region is underlaid by coals. Coke ovens, coal pits, and furnaces are scattered through the valleys, and the attention of almost the entire community is devoted to mining or smelting. From this region are got the vast stores of coals that are sent by railway or water throughout the Mississippi valley and the gas coals shipped everywhere for illuminating purposes. It is the

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"Pittsburg coal district," famed as a producer of coals and coke and of iron and steel; and the recent introduction of the natural gas has been of wonderful advantage to its manufacturing industries in the way of cheapening fuel. From the Alleghany mountain top down the slope to Johnstown we have seen continued evidences of the coals and coke and of the development of the iron and steel manufacture; and these are the constant exhibitions of the Pennsylvania Railroad westward to Pittsburg. Beyond Johnstown the Conemaugh river becomes a broad stream, winding with a deep valley among high, wooded, rounded hills, making most picturesque scenery, as the gorge breaks through range after range. The railway runs for miles along the southern bank, giving fine views along the river reaches as the train swings around the curves. The dense vegetation blooms into luxuriance on the slopes, which are crowned with forests; while occasionally the valley broadens sufficiently to permit a little farming. Thus we run through the gorge which has broken a river passage in the Laurel mountain, and enter Westmoreland county, the line turning south-west with the river. Passing smoking coke ovens and black coal pits, and crossing a broadening valley, the Conemaugh turns westward and takes the railway through the finest pass west of the Alleghany, the famous Packsaddle narrows—a ravine displaying magnificent scenery, by which the river breaks through the Chestnut ridge, the western border of the mountain ranges. For 200 miles the line has gone through or over range after range, and this pass is the exit, the Chestnut ridge rising 1,200ft. above the narrow gorge,

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where railway and river are closely crowded in the bottom of the ravine, the railway gradually climbing the slope above the river.

This point of exit from the mountains is known as Blairsville intersection, where the main railway leaves the Conemaugh and a branch goes off to Blairsville, named in memory of the solitary pioneer of Blair's-gap. South-westward our line runs along the slope of Chestnut ridge, through a region that seems a vast coal mine in the bordering hills, while some farms appear to the westward. The Conemaugh flows away to the Alleghany river, and we are making a shorter overland route to Pittsburg. All the little stations are colliers' homes, and coals and coke abound, with many branch lines coming out from among the hills with the product of the mines. Thus we come to Derry, a station for making up coal trains, originally named in honour of the Irishmen who formerly did the work of the mines, but who are now superseded generally by the cheaper labour of the Hungarians. Miles of coal cars border the line, ready for movement to market either east or west. The approach to the natural gas region is denoted by the flaring torch-like street lamps, where it is burnt, although a poor illuminator, that rather pales before the lurid glare of the numerous rows of coke ovens. Thus we pass Latrobe, on the Loyalhanna creek, in the Ligonier valley, and beyond it cross a thrifty farming region among the spurs of the hills, to Greensburg, the capital of Westmoreland county. This prosperous borough was in its early history known as Hannastoun, where were passed the patriotic resolutions of 1775, just after the initial battle of the American revolution at Lexington which sounded the keynote for the Declaration of Independence in the following year. Here first appeared during the

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revolution General Arthur St. Clair, an immigrant from Scotland, who lived in a humble house on Chestnut ridge. He had been the British commander at Fort Ligonier, then on the frontier. Horrible Indian massacres were the chief features of the revolution in Westmoreland county, and in one of their raids in 1782 Hannastoun was burnt. St. Clair died in poverty, and his remains lie in a Greensburg churchyard, where they were interred under a monument that sharply rebukes the parsimony of his country. He died at the age of 84, in 1818, and the inscription says, "The earthly remains of Major-General Arthur St. Clair are deposited beneath this humble monument, which is erected to supply the place of a nobler one due from his country."

The natural gas torches are numerous at Greensburg and at all the stations westward, for the railway skirts along the southern border of the chief natural gas-producing region, the "Murrysville District," the leading wells being at Murrysville, about eight miles north of the line. The hills are high and the valleys deep, and these are the characteristics all the way to Pittsburg. The whole country is a development of coal pits and coke ovens, and we move swiftly over the region of the gas coals, their rich deposits extending westward to Pittsburg and southward to the Monongahela river. Mining shafts are seen on all sides as we pass the pits of the great gas coal companies, the Penn, Westmoreland, Shafton, and others, which send millions of car loads to market for the manufacture of illuminating gas. Thus the line approaches Pittsburg, which is built directly over vast deposits of coal and reservoirs of gas, and reaching Turtle Creek, among the coals and coke, enters Alleghany county. The approach is made through deep valleys, enclosed by high

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hills that cover in the overhanging clouds and smoke. Ten miles from Pittsburg the railway crosses the field of Braddock's memorable defeat and massacre, then a thick forest, but now a scene of busy industry. Braddock came into this region from Virginia, marching across the Monongahela river, and his object was the capture of Fort Du Quesne, at the confluence of the Monongahela and Alleghany rivers, where they form the Ohio. No event in American colonial history has been the subject of greater comment than this defeat. Braddock lost his life, being shot, it was said, by one of his own men, and in rallying the defeated forces Washington won his first military laurels. In this battle 850 French and Indians, by means of an ambuscade and surprise, defeated 2,500 British and American forces. Three years later the fort was abandoned by the French, and being occupied by the English became Fort Pitt, whence the name of Pittsburg. The great Edgar Thomson Steel Works, one of the largest Bessemer steel plants in the country, is now the busy industry alongside the Monongahela at Braddock's, where a handsome monument recalls the battle. Pretty villas are perched on the hills, and the railway broadens into four sets of rails to accommodate the traffic of the terminals, and we pass a region of market gardens underlaid with coals, where the black shafts come up almost among the vegetable beds. The line leaves the neighbourhood of the Monongahela, which it had approached at Braddock's, and goes through the deeply-cut valleys that are fissured into the high hills which environ Pittsburg. The little suburban stations are pretty structures, ornamented with flower beds, and at Liberty, just outside the city, are the extensive stock yards and freight storage yards of the line. Thus we run into town, and halt at the station.

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under the shadow of an enormous hill, 354 miles west of Philadelphia, where the main line of the Pennsylvania Railroad ends at Pittsburg. Here the railway divides into two lines, the "Pan Handle route," for Cincinnati and St. Louis, on the left hand, and the "Fort Wayne route," for Cleveland and Chicago, on the right hand, these being the Pennsylvania lines westward to the Mississippi valley and the lakes.

The Monongahela river coming up from the southward, and the Alleghany river, flowing down from the northward, each drain the western ranges of the Alleghany chain. They unite at Pittsburg to form the Ohio river. Each stream flows through a deeply-cut cañon, with a triangular piece of flat land at their confluence, upon which the town is built. The names of all three rivers are of Indian origin. Monongahela means the "river without islands." Ohio is a Seneca Indian word, pronounced originally O-hee-o, and meaning the "fair water," while Alleghany, in the language of the Delawares, has much the same signification, and by all the Indians these two were looked upon as one river, with the Monongahela as a tributary. The French are said to have been the first white men who explored this region, but in 1754 a small party of English began building a fort at the confluence of the rivers. The French drove them away, thus beginning the bitter war that raged for seven years, and immediately erecting the famous Fort Du Quesne. After the period of wars and massacres, business began to develop, at first vessel building and then smelting and coal mining and the manufacture of glass. The earliest rolling mill was started in 1812, and two years later a cannon foundry, out of which has grown the Fort Pitt Iron Works, one of the largest establishments in the city. Then Pittsburg expanded vastly with

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the introduction of steam, and became an extensive builder of steamboats for the western waters. It had set-backs from fires, but the opening of the railway gave it a wonderful impetus, and it is now unrivalled as the "Birmingham of America," with a half-million people at or near the confluence of the rivers, who are supported by its thousands of factories, and conduct its enormous trade across the mountains and with the Mississippi valley and the Far West. The introduction of natural gas as fuel, as may be supposed, has been a great addition to the prosperity of this busy hive of industry. There are few American views more striking than that given from the high hills overlooking Pittsburg. On the southern bank of the Monongahela river, rising steeply almost from the water's edge, is Mount Washington, 350ft. high. Up the face of the declivity, which rises at an angle of 45deg., there are inclined plane railways, upon which the double system of ascending and descending carriages is moved by cables worked by a steam engine at the top. These not only carry foot passengers but also horses and wagons, and furnish a quick and easy method of going up or down the hill. The scene from this elevated perch is superb. The Alleghany river comes from the north-east and the Monongahela from the south-east, through deep and winding cañons cut into the rolling table-lands, and they unite to form the Ohio, which passes away to the north-west, also through a deep gorge, though the ridges of hills bordering it are more widely separated. Pittsburg stands upon the flat surface of the peninsula, above the junction of the rivers, which has some high and elongated ridgy hills stretching eastward through its centre. Its situation and appearance has been not inaptly compared to a flat iron, the point being at the head

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of the Ohio, and these ridgy hills making the handle. Its population has overflowed into extensive suburbs across both the bordering rivers. From the elevated hill-top all this scene is spread out at our feet, the houses of Pittsburg stretching from the rivers back eastward up the slopes of the hills that blend finally into the green fields of the distant suburbs. Directly opposite, to the northward, the Alleghany river comes down from among the distant hills, and sweeps grandly around to the westward, beneath its seven bridges, all in full view, as it passes away to the left hand into the Ohio river. Almost beneath us is the Monongahela, flowing under its series of bridges, the narrow shores between the steep hills bearing a mixed maze of railways and factories. Countless steam jets and chimney smokes come up in all directions, and, in fact, the borders of all the rivers, as well as patches scattered through the city itself, are made up largely of this mass of curling steam and heavy palls of smoke from the myriads of factories. The steam jets puff and are quickly dissipated into little feathery clouds that speedily evaporate, but the smokes are much more persistent, going off before the westerly wind into a dark cloud to the eastward that obscures the region whence the Monongahela river comes. Though this obscuration is still great, yet I am told it is nothing like the pall that hung among these Pittsburg hills until a year or two ago, when the introduction of the natural gas as fuel began materially reducing coal consumption. Not long since, with its mass of steam and smoke, this elevated view down into Pittsburg was of a veritable Pandemonium, the terrific character of which can hardly be realized, though it has been not inaptly described by one who for the first time looked into the American "smoky city" on a

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lowering day, down in its deep basin among the high hills, as appearing like "Hell with the lid off."

Plenty of railways assist in making up this weird scene, and most of them are laid along the narrow river borders, and stretch off to the east, up the Monongahela, or else to the westward, disappearing along the Ohio, which flows away between the hills in two channels around a broad island. Scores of odd-looking, ark-like, stumpy-prowed little steamboats, built high above the water, with a huge wheel at the back, fringe the river banks, and have their noses thrust up to the sloping *levée*, on which is piled the cargoes, chiefly of iron products, they are to carry away. The swift current turns their sterns down stream, so that they all lie diagonally to the shore. Fleets of flat and shallow coal barges are moored in bunches, awaiting a sufficient freshet to give enough water to float them down the Ohio. They do not need much depth, for, in fact, all these western river craft are of such shallow draught that it is said they can get over the ground if it is only a little damp. The outlook over this strange and animated scene, with all sorts of busy noises rising from it—the steam hissing, forges and trip-hammers pounding, flame jets rising from innumerable chimneys, railcars running, engines snorting and puffing, bells ringing, whistles screeching, and smokes of all colours blowing about—gives a perfect idea of the great American "Iron City," which is one of the busiest hives of industry in the States, and has gathered such an army of enterprising workers at the junction of the rivers to carry on its diversified manufactures. It has all been collected within a century, for then the only thing that was here in the unbroken forest was the old brick fort down near the point of the peninsula where the rivers join

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This famous fort is still preserved. It is a small, one-story brick building, about 15ft. square, with pyramid roof. Originally a stockade surrounded it, enclosing some space, but this has disappeared, and the noted little structure is now crowded in among some squalid houses, among the mills and stores about 100 yards from the head of the Ohio. It is a dwelling-house occupied by a labourer, and there seems to be reason for profound regret that the city does not take better care of such a relic. Pittsburg is getting fine new buildings. The United States Government is leisurely constructing a large post-office, and Alleghany county has under way upon a hill adjoining Fifth-avenue, which gives a prominent site, a fine new Court-house, which will be a fitting adjunct to the granite gaol of similar architecture which is already completed. Both are imposing structures, and connecting them is an arched stone-covered bridge, which is thrown across an intervening street for a passage-way, being modelled much like the Bridge of Sighs. The city has several attractive business streets, but its greater attraction is the multitude of factories, iron, steel, and glass being predominant. These are at once the pride and the prosperity of Pittsburg. Its ironmasters, too, are supreme, and among its leading people who have carved out their fortunes in the varied industries of this remarkable place the names of two men are always prominently mentioned. Andrew Carnegie, who is the owner of several of the largest furnaces, rolling mills, and Bessemer steel works, is the leading ironmaster of the United States and the wealthiest citizen of the town, his Scotch origin indicating the source of the great business energy and shrewdness he has developed. George Westinghouse has combined with business tact the genius of the inventor, and is known in Pitts-

burg in three capacities. He is the inventor of the automatic railway air-brake now in universal use, and has a large establishment for its manufacture and for constructing other railway appliances. He is also the head of an electric light company that has its illuminating system in general use in Pittsburg. But he is probably best known by being the leading spirit in the extensive adaptation of natural gas to the city's wants, and as the inventor of many ingenious contrivances that have been useful in the introduction of this new fuel.

It has been only in recent years that with advancing wealth the Pittsburg merchants and manufacturers have found opportunity for suburban adornments. Up on the hills to the eastward of the city, in Oakland and beyond in the East-end, is an attractive residential section, where pleasant villas and ornamental grounds are showing the taste in landscape and rural decoration of which this beautiful region is capable. The suburban adornments are also spreading in other directions upon the high hills that enclose the rivers. In Alleghany there are many costly residences in commanding situations overlooking the rivers, for here has been a favourite location for the homes of Pittsburg business men. The Alleghany Park is in the centre of that suburban city, and it is an attractive place, covering about 100 acres. In one part it abruptly rises in a very steep hill almost at the edge of the Alleghany river, and on the crest of this eminence, where it can be seen from afar, stands the soldiers' monument, a graceful column erected in memory of 4,000 soldiers of the county who fell in the Civil War. Its soldier statues on guard at the base look out upon the smokes and steam jets, and thousands climb up there to be fanned by the summer

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breezes blowing up the Ohio and enjoy the grand view.

To the southwest of Pittsburg, out on a branch of what is known as the "Pan Handle Railway" is the town of Washington. It is a small town rambling over a hilly region in the south-western corner of Pennsylvania, and its neighbourhood is just now noted as the theatre of another demonstration of the bountiful gifts of Nature to the happy Americans. Two miles from this town are the greatest petroleum wells the world has ever known. New wells have been drilled in this comparatively recent petroleum region and one after another has astonished the trade with its big "strike." Here is the great McKeown well known as the "Jumbo," which is such a "gusher" that in 60 days after the oil was struck it had poured out 140,000 barrels. It makes a steady outpour of almost white oil in a circular stream about five inches in diameter that flows at the rate of 4,200 gallons an hour. Not far away is a later well that was "struck" about the middle of September, and it, in its freshness of infancy, is pouring out at the rate of 6,300 gallons an hour. Other wells are drilling, and still more wells have had their great day, and have subsided to about 1,500 gallons an hour outflow, while yet others have to be pumped and yield barely a hundred barrels in a day. This is the universal lesson of the oil fields, the "gushes" soon giving out, for there is only so much petroleum stored in the sands beneath, and the more visits there are the sooner is the source curtailed. This district of Washington, however, is the latest of the new oil-fields, and it has had the honour of producing the two most prolific wells ever known. Thus oil and coal and gas, and iron, steel and glass, all combine to swell, with the vast railway,

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and river traffics, the prosperity of the busy "Iron City."

XXVII.—THE PITTSBURG NATURAL FUEL GAS.

From the western base of the Alleghany Mountain at Johnstown out to Pittsburg the most impressive lesson taught by this journey has been of the extent and effectiveness of the use of natural gas for fuel. During the past three years it has been made to almost entirely supersede coals and coke in generating steam and in the manufacture of iron, steel, and glass, and the great saving in fuel cost thus secured has made Pittsburg the cheapest manufacturing centre in the States. This natural gas, as it is called, is by no means a recent discovery, although the extent and importance of its present uses are of world-wide interest. It has been used in China, and for years in many parts of the world burning gas springs have been known. Sixty years ago at Fredonia, New York, it was used for illuminating purposes, being procured from a well. Its origin is in the decomposition of forms of animal or vegetable life embedded in the rocks, and it is stored under pressure in porous or cavernous rocks overlaid by impervious strata. When these are pierced the gas is set free. The position at which the gas is found is variable, depending upon the force of gravity and the position of the porous sandstones in which it is confined. The region of the gas is the portion of Pennsylvania west of the Alleghany Mountain extending into New York, Ohio, and West Virginia, and it is also found to a limited extent in Kentucky, Indiana, Illinois, and Kansas. By

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far the most important locality of its discovery, however, is in the neighbourhood of Pittsburg. There are six companies formed for supplying that city with the gas, and they manage 107 wells, and transport the gas through over 500 miles of pipes, of which 232 miles are within Pittsburg. They can deliver more than 250 millions of cubic feet in one day, and in practice frequently deliver 200 millions. One great company does three-fourths of the whole business, the Philadelphia Company, which supplies more than 400 manufacturing establishments and 7,000 dwellings with all their fuel in the form of gas, and has some £1,600,000 invested in the plant necessary for the business.

An interview with Mr. Charles Paine, the general manager of the Philadelphia Company at Pittsburg, gave me an insight into this wonderful subject, which has alike revolutionized the manufacturing and domestic economy of Western Pennsylvania. The natural gas is a mixture of hydrogen, nitrogen, and marsh gas, with occasionally higher carbon compounds. It has about one-half the specific gravity of atmospheric air, varying, according to locality, from ·45 to ·55, and also according to its composition, which is found to differ considerably in adjacent wells and even in the same well at different times. The average composition of the Pittsburg natural gas is 67 parts in 100 of marsh gas, 22 of hydrogen, three of nitrogen, five of ethylic hydrate, one of olefient gas, and the remaining two of oxygen, carbonic acid, and carbonic oxide. The gas found at Findlay, Ohio, another prolific gas-field in the north-western portion of that State, analyzes thus —marsh gas, 93; nitrogen, four; hydrogen, two; and the remainder small portions of the other gases above mentioned. In 100 litres of Pittsburg

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gas, the heat units are calculated at 789,694; in Findlay gas, 878,082; and, for the sake of comparison, in the same quantity of Siemens's producer gas, at 113,000. In generating steam experiments under various boilers show 1,000ft. of gas to be equal in heating power to from 80lb. to 133lb. of different kinds of coals. One pound of coals equals in value 7½ft. of natural gas. The latter explodes violently when mixed with 9 to 14 parts of air. When burnt with pure oxygen, the flame temperature of the natural gas is estimated at 7,100deg. centigrade and of the Siemens's producer gas at 2,850deg. centigrade. When burnt with just enough air to secure perfect combination, the temperatures are estimated at 2,333deg. centigrade for natural gas and 1,700deg. centigrade for Siemens's. The natural gas usually has but little odour, but it is often found strongly scented with the fumes of petroleum or of sulphuretted hydrogen. While the absence of odour is a defect lessening the chances of discovering leaks, yet the sense of suffocation caused by inhaling air charged with only a very small portion of the gas is regarded as a warning of its presence quite as palpable as the odour. The gas is described as colourless, yet it may be seen to have a pale blue tint when blown into the air by high pressure from a well, looking not unlike a column of high-pressure dry steam from a boiler. The theories of its origin vary, the probabilities being that as petroleum and the gas are always found in conjunction, they are derived from the same sources. They have remained imprisoned in certain open or porous rocks until discovered by the drill, or by issuing through crevices leading to the surface.

The natural gas, it is thought, may be found in any of the strata which have been deposited since the archæan rocks. In North-Western Ohio it is

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found in the Trenton limestone in the second series of strata above those rocks, and more or less gas has been found in each of the subsequent strata up to the coal measures, and it even exists in the glacial drift. Starting at the oil region in Upper Canada, and passing through New York State and to the south-west corner of Pennsylvania, the sedimentary rocks dip gently and somewhat uniformly to the south-west, the lower rocks outcropping at the north-eastern end of the section, while the full series, extending to the upper barren coal measures, are found at the south-western end. Upon this line it is remarkable that the oil or gas, in profitable quantity, is found only in those strata of sandstone which happen to be at 500 to 2,000ft. below the surface. Deeper drilling in any place along this line has not succeeded in finding a stratum which was at that place productive of either oil or gas in valuable quantity, although yielding both in abundance at some other locality, where it is nearer the surface. The reservoirs of gas and of oil seem to vary in dimensions, from the smallest pocket up to 30 or 40 square miles in extent and 100ft. or more in thickness. It is important to the finding of gas that the rocks above shall not have been violently disturbed or broken, because the gas would certainly have escaped through the crevices thus made. It is, therefore, regarded as useless to search for it in immediate proximity to mountain chains. It may be looked for in almost any quarter, however, where the strata have not been violently disturbed, between the upper carboniferous and the archæan. Several contiguous strata may contain water, oil, and gas in intimate mixture, or they may be separated by short intervals. The natural expectation that the gas would be found at the top, then the oil, and then the water

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is frequently reversed, and in some places the well-drillers first pass through a stratum of salt water, then a stratum yielding oil, and finally reach the gas in a lower stratum. There is manifestly no communication between the strata when this condition of affairs exists. When first reached the tension of the gas is very high, 1,000lb. per square inch being not unusual at the first penetration of the drill into the reservoir. It is not uncommon for the drill, the rope, and even the well-casing pipes, to be blown out of the hole from 1,500ft. depth over the top of the derrick, like an arrow from a powerful bow gun. The highest accurately measured well-pressure of which there is knowledge is 750lb. to the square inch. Few who have not seen a blowing gas well can imagine what this enormous pressure is. A plank thrown into the gas current is instantly shivered into pieces by the terrific force, there not being time given it to get fairly into the jet before the enormous power has blown it to atoms.

The method of drilling gas wells is precisely similar to that employed in drilling for petroleum. The derrick will be set up at a cost of about £70. The driller furnishes engine, rope, and tools, and drills the hole required, if not over 2,000ft. deep, at a price varying with the territory, the hardness of the rock, and distance from the base of supplies, from 4s. to 8s. per foot depth. The hole is usually eight inches in diameter, and is cased where water is encountered by pipe of 5⅝in. interior diameter; the hole below the casing being 5½in. diameter. A remarkable feature of the well-sinking is the indifference of the drillers to the loss of their tools, which they carelessly allow to fall into a hole 1,000ft. deep because of the rope or derrick-head or something else wearing out or breaking. They then have a "fishing job" on hand, as they

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term it, and have most ingenious contrivances to recover from what less sanguine people might regard as a hopeless calamity. In the majority of cases they manage to pick up the tools and continue the well. The apparatus for well-sinking is of rude and simple construction, yet so admirably adapted to the work that it would be difficult of improvement. The boring of these gas wells goes on vigorously, for the search for natural gas is extensively conducted. There are 52 natural gas companies already in operation in Western Pennsylvania, besides others in the different States where gas reservoirs have been found. The study of the subject has developed that the amount of gas in any reservoir is a limited quantity. While the processes of nature may even now be making it, nothing is known with certainty, excepting that many of the smaller reservoirs heretofore tapped have been nearly or quite exhausted, although many continued for a long while to supply the limited demand made upon them. No one knows, therefore, but that as the oil pools have been exhausted of the larger portion of their contents, so it may be expected to finally exhaust the largest gas reservoir yet reached. But fortunately the thickness of the porous strata and its great extent seem to promise a long continuance of the supply. At Cambia, in Knox county, in the central part of Ohio, is a gas well that has been blowing for 20 years, and it has been systematically examined during the last 14 years, with no apparent diminution of the supply during all that time. This development, as instances of the kind are not infrequent, leads many to support the theory that the gas is steadily being distilled, so that the reservoirs are re-supplied. It is also stated that an approach is already being made to the economy of nature in the production

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of fuel gas in the United States, and, were the supplies exhausted, a gaseous fluid could still be made for a price quite within the purchasing power of manufacturers.

The illuminating power of the natural gas is low, being reckoned at eight candles upon the usual scale. Its products besides heat and light are a superior lamp black, called diamond black. It also makes, when improperly burnt, a carbon that furnishes superior pencils for the electric arc light. While the gas can be enriched to improve its illuminating power, yet it evolves such great heat that it can only be used in large or open spaces. The gas torches make a good light for yards, streets, or rolling mills. It has not yet been successfully used in smelting iron ores, but with this exception may be used for all purposes for which heat is required, and is better than any other fuel. It is so perfectly subject to control as to quantity consumed and distribution in furnace, kiln, or oven, is so free from sulphur and other objectionable admixtures, that all classes of manufacturers are enthusiastic about it, as the best, most convenient, and the cheapest fuel. It is admirable in dwellings, and nobody who has it wants to go back to coals. In supplying, the charge is made to the factory at a price regulated by the ton of output, and this is about one-half the cost of coals, besides the enormous saving made in labour formerly required in handling the coals, stoking fires, and removing ashes. One man in a boiler room, who goes about watching gauges and adjusting the stopcocks regulating the gas supply, now replaces a score or more who formerly handled coals or toiled at the furnaces and ash-heaps. Where the gas has in a few cases been supplied by measure, the charge has generally been 4d. per 1,000 cubic feet. But this method of charging is generally superseded by

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the other, which permits unlimited use of gas, and gives the manufacturer a fixed figure, regulated by his output. In a dwelling the gas is charged for by the size of the house and the number of fires. An ordinary dwelling will cost about £12 yearly, and the largest not over £25. In each case the cost is about one-half cheaper than coals. The use is unstinted, and it flows as freely as water or air.

The great problem in the transportation of this gas under pressure from the wells to consumers was the prevention of explosions by making tight joints. George Westinghouse, whose name is most prominently known in connexion with the gas supply, has invented ingenious methods which have successfully accomplished results that prevent explosions. The most violent gas well ever struck was bored upon his land, and this interested him in the investigation of the subject for the purpose of providing safeguards against the dangers of leakage. He devised the system of escape pipes used by the Philadelphia Company, of which he is the president, for entrapping and carrying off the gas which would leak from the best joints it is possible to make. By a system of enclosed joints, he leads the escaped gas into a line of escape pipes, constructed parallel to and over the main gas pipes, and at every 200ft. to 300ft. this escape pipe discharges into a lamp-post on the sidewalk, which lets the gas out into the open air. In some cases these posts are lighted and illuminate the streets. The arrangement entirely prevents the leakage escaping into vaults or cellars, where it might be dangerous, and the street explosions, which were common in Pittsburg in the early history of the fuel gas, are now almost unknown. He has also provided ingenious valves and regulators for reducing pressures and supplying

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dwellings, where the pressure is not over four ounces. They work automatically, and serve also as automatic detectors of bad fittings in the house, or of neglect to close cocks in case of interruption to the supply. The Philadelphia Company, which supplies about three-fourths of the natural gas used in Pittsburg and its neighbourhood, gets its supply from three fields, averaging about 20 miles distance east of that city, in Westmoreland county, known as Murrysville and Lyons Run, which are south of the Alleghany River, in Westmoreland county, and Tarentum, on the bank of that river, north of Murrysville. The Tarentum field has 11 wells in operation, and the other and larger fields 54. These wells have all been "shut in," as it is called, by suspending to the casing of each a platform loaded with rocks and earth of sufficient weight to overcome the pressure in the wells, which averages about 500lb. per square inch. The gas is thus no longer allowed to waste by blowing off into the air when not required by consumers, but is retained in the natural reservoir. In providing for this loading, it was found necessary to use the most tenacious steel fittings at the tops of the wells, the ordinary cast-iron fittings not being strong enough to resist the strain.

Thirteen separate lines of pipes are laid from the gas wells to the city of Pittsburg, belonging to the Philadelphia Company, their lengths varying from 17 to 24 miles. These lines are connected by cross lines at various places throughout their length, and they begin to ramify at the city limits, sending out large arteries to each portion of the city, and from these main arteries smaller pipes distribute the gas through all the streets of Pittsburg and Alleghany and their suburbs. The pipe connexions are so arranged in the producing districts that the product of any well may be

used to increase the pressure in any one of the several pipe lines, so that different wells may be shut off from any part of the system and their places supplied by others, thus securing any required pressure upon any line at all times. A telescopic arrangement is also adopted for the main pipes, their diameter being increased at intervals on the route to Pittsburg, so as to be able to deliver a fixed volume of gas at a designated pressure. The gas is also carried around in many circuits and over different routes, so that any particular main will have several sources of supply. This is done to avoid interruption in the flow to any consumer; for if, through accident or repairs or changes, the gas cannot be got to him from one direction, it will reach him from the other. The main supply lines are provided at their intersections with convenient stations, supplied with gauges, governing valves, and automatic safety valves, so that pressures may be regulated, and may not accumulate above a certain tension. There are 21 of these stations, at which agents are in attendance night and day, and control the pressures in each section of the pipes according to directions given by telephone from the central office. The variations in consumption on the different lines make changes necessary from hour to hour and even more frequently. Automatic regulators for this purpose are now being experimented upon and may ultimately be perfected. The pressure at which the gas starts from the wells in the piping system varies according to the temperature, being higher in winter than in summer; the former being from 280lb. to 312lb. per square inch, and the latter from 220lb. to 240lb. These pressures are gradually reduced by enlarging the flow through dividing or enlarging the pipes, or by regulating valves as the city is approached.

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until it gets down within 30lb., and finally in the street-distributing pipes from 7lb. to 10lb. It is let into the dwellings by regulators under pressure from two to four ounces, and into manufacturing establishments according to capacity from 10 to 20 ounces. All these pressures are under complete control at the Pittsburg central office, where the superintendent watches and regulates them the same as if he were moving the traffic of a railway. The business is a profitable one, for the Philadelphia Company makes regular dividends of 1 per cent. monthly, and does not divide much more than one-half its net earnings. The market price of its shares is in the neighbourhood of par (50), the public regarding the gas business as still being experimental. There are said to be some £4,000,000 of different gas companies' shares issued in Pittsburg and its neighbourhood.

The universality of the use of this natural fuel gas in factories and dwellings is the most surprising development of a visit to Pittsburg. It causes astonishment not only from its novelty, but also its cheapness, for it has given Pittsburg the advantage as a manufacturing centre over every other town in the States. The scientific investigations of the fuel value of the natural gas show that in weight 1lb. of coals equals 25 cubic feet of gas, but in fuel value, as above stated, 1lb. of coals equals 7½ feet of gas. The absolute purity of the gas, too, makes a better quality of iron, steel, or glass than coals. It makes steam more regularly, because there is no opening or shutting of furnace doors, and when properly arranged the flow of gas regulates the steam pressure, leaving the engine-man nothing to do but watch the steam gauge. The boilers last longer, and fewer explosions result from unequal expansion and contraction when cold air strikes hot plates. The

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various companies supplying Pittsburg in their reports show the expansion of pipe area in transmission, which is plainly demonstrated by the statement that the total area of all the pipes leading from the wells at the wells is 1,346,608 square inches, while at the city line this area is expanded to 2,337,083 square inches. The pipes vary in interior diameter from three to 30 inches, the greatest amount being 6in. and 8in. pipe. The Philadelphia Company has absorbed the greater portion of the business and also of the gas territory, owning the gas rights on about 54,000 acres of lands advantageously placed around Pittsburg. It draws supplies from only half its wells, these being ample for the present consumption. Its managers have thorough confidence in the permanency of the gas supply, and they regard this as one of the most valuable developments for the business advantage of the country that has ever been made. It certainly has the deepest interest for the visitor. It has not been long since at Findlay, in North-Western Ohio, elaborate festivities were conducted for three days to mark the anniversary of the discovery of natural gas in the town. Thirty-one gas wells had been bored in the neighbourhood, and they were pouring out 90 millions of cubic feet of gas every day. All these wells were piped into town to assist at the anniversary, and 30,000 enormous gas torches were blowing their flickering flames as an accompaniment to the oratory of John Sherman and the Governor of Ohio, which were also put on tap for the festal occasion. There were parades and tournaments by the military and firemen, and a multitude of brass bands endeavoured to drown the roar of the escaping gas, which in its way was as wonderful as Niagara. The country was lighted up for a distance of 20 miles around, and the

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"Karg well," the greatest in the world, blazed out with a roar that could be heard a mile away. The laying of corner-stones for churches and factories was a marked feature of the celebration, and a great future was predicted for the town. If this wonderful fluid continues in permanent flow it will coin untold wealth for its fortunate possessors, and add another to the many advantages America enjoys over less favoured nations. This natural fuel gas is certainly producing a manufacturers' millennium.

XXVIII.—THE CHICAGO LIMITED EXPRESS.

In a country as extensive as the United States, where the distances are so great and the chief cities so widely separated, the railway systems are naturally expanded to a degree hardly realized in other parts of the world. The traveller often spends a week in a railway train, and it has become a common method of making an agreeable tour for a party to charter a special railway coach or train, and live in it for days and weeks together while journeying about the country. The chief American railways leading out of New York make elaborate arrangements for long-distance travelling, and George M. Pullman is noted throughout the States, as well as in Europe, for his inventions, which secure comfort and luxury on these long American railway journeys. As the Englishman of wealth and leisure may have his yacht, so the American who is similarly blessed has his "special private car," in which he enjoys the pleasant

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pastime of "yachting on wheels," for he has 150,000 miles of American and Canadian railways at command, with an endless variety of scenery and attractions. These, however, are private arrangements. For the use of the general public in long-distance travelling the "Chicago Limited Express" of the Pennsylvania Railroad is regarded as the most completely-appointed passenger train that is run upon any American railway. It passes daily each way between New York and Chicago, a distance of nearly 1,000 miles, the journey being accomplished in 25 hours. The train leaves New York at 9 o'clock in the morning, and arrives at Chicago at 9 the next morning, the local time there being one hour later than New York. The service is "limited" in the sense that the train is confined to four Pullman sleeping coaches, a dining coach, where an elegant restaurant furnishes excellent meals *à la carte* for 4s., and a "composite car," the latter having a compartment for luggage and the mail bags which are carried between the terminal cities, also sleeping apartments for the train-men, and a smoking and reading room for the passengers, furnished with easy chairs, a library, writing and card tables, bath room and barber shop, the latter being an indispensable adjunct to American life. The passenger may thus relieve the monotony of the journey by getting his hair cut or indulging in that vigorous hair-cleansing process known as the shampoo for 2s. or a shave for 1s., or a bath at the rate of 40 miles an hour for 3s. He also has at hand an excellent selection of current literature and all the daily newspapers of the chief American cities in the library.

The coaches in this train are the latest

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productions of Pullman's Palace Car Company, and show the best skill of the American railway-car builder. To fit up the three trains conducting the daily service each way between the two leading American cities cost, without the motive power, about £60,000. The delicate and artistic decoration of the outside of these coaches shows the elaborate skill of railway-carriage ornamentation in America, and makes an apt setting for the comfort and luxury found within. The "platforms," as they are called, which make the junction between the coaches are arranged with vestibules, a recent invention of Mr. Pullman. This is done by enclosing them all around with elastic steel frames, which may be described as a sort of continuous buffer. These, extending from floor to roof, join when the coaches are coupled and are kept in place by springs which force the frames tightly together, so that the two coaches become practically one, and there is thus obtained a wonderful steadiness of motion throughout the train, with sufficient flexibility to readily move around curves. Sheets of rubber and curtains cover the lines of junction, and the interiors of the vestibules are carpeted the same as the coach, concealing any break in the continuity of floor or sides. An American railway coach always has a long aisle down the middle, with seats on either hand, and this vestibule arrangement prolongs the aisle into the next coach. The passenger moves about at will, passes from coach to coach, and when the train is standing a plate-glass door in the side of the vestibule provides exit or entrance at the stations. These Pullman coaches are furnished in the most elaborate manner, are lighted by electricity kept in storage batteries, and in honour of the "foreign relations" of America who do so

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much riding in them they are given foreign names, for every coach has to be named. The train upon which I rode had the four coaches named "Russia," "Spain," "Italy," and "Corinthia," and the dining coach was the "Ponce de Leon." Upon the other trains of the same service the coaches are named "England," "France," "Germany," "Ireland," "Austria," &c. Each coach is a complete hotel, with sleeping accommodations for about 30 passengers.

This train, which is arranged to make the quickest time between the metropolis of the Atlantic seaboard and the chief city of the West, secures its speed by having the fewest possible stops, the only halts made being at intervals of 100 to 130 miles, when it is necessary to change the locomotives, there being seven relays provided and five minutes' halt to make each change, during which time a small regiment of train-men examine the wheels and all the running gear, and also fill up the water-tanks and ice-boxes in the coaches, for the train carries large supplies of both, a vast amount being used by the passengers, especially in the hot American summer weather. The train leaves New York every morning and Chicago every evening, this being arranged to give the charming scenery in crossing the Alleghany Mountains each way by daylight. The nearest approach to absolute safety is secured by giving this limited train precedence over all others, and thus providing it free and unobstructed course over the line. It is literally a first-class American hotel on wheels; you eat and sleep upon the train, write and post your letters and send your telegrams; can smoke or lounge in the comfortable easy chairs provided in the forward coach; can read the newspapers and current literature; or can roam all over the train at will, which is a great comfort to the pent-

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up passenger on a long journey. The toilet accommodations are complete, and everything is kept in thorough cleanliness, while the coaches are carefully ventilated, and made warm in cold weather. The excellent construction of road-bed and coaches makes the movement of the train very steady. It runs at speeds from 30 to 60 miles an hour, according to the grades. It rushes steadily along, over river and mountain, through the finest scenery of the Alleghanies, past mine and mill, foundry and forge, over the farm and through the forest, and quickly into and out of village and town, where the people turn out in crowds to see the daily "whizzer" go by. It stops only to change locomotives (and then is off again in short order), and, what is of the greatest importance, it goes through "on time." As the day was changing into night the novelty was had of eating dinner on the train, with the unique and appetizing sensation of flying onward at the rate of 50 or 60 miles an hour as we sat at the flower-decorated tables. Then games and social chat among the passengers whiled away the evening, and when the time came for turning in, the nimble negro "porters" donned their snow-white jackets, pulled down the sloping upper sides of the coach, and quickly made up the sleeping berths. The passengers promenaded about, going from one end of the sinuous train to the other, a distance of 500ft.; and as the curves were suddenly rounded by the swift-moving coaches they amused the onlooker by their curious gyrations in trying to keep upright. One could see back through the entire train and watch it twist about like an elongated serpent. Finally, as night came on and the "Limited" left the Ohio river valley for its long north-western journey across the rolling lands of Ohio and the prairies

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of Indiana and Illinois to Lake Michigan, all hands went to bed, it is hoped to enjoy the sleep of the just.

The Pennsylvania Railroad west of Pittsburg on the route to Chicago is known as "the Fort Wayne road," or, to be more precise, the Pittsburg, Fort Wayne, and Chicago Railroad. After leaving Pittsburg, the line runs for about 26 miles northwest, down the Ohio river, amid the grand scenery of its bordering hills. It was the Ohio river and its tributaries that furnished the means of making the earliest prosperity of Pittsburg. This great river is the largest branch of the Mississippi from the eastward, and it drains a basin of over 200,000 square miles. It flows almost a thousand miles in a generally south-western course to Cairo, at the southern extremity of Illinois, where it joins the Mississippi. In its upper waters the Ohio is from 1,000 to 1,200 feet wide, according to the state of the current, the depth changing 50ft. to 60ft. between high and low water, and it flows at the hourly rate of one to three miles. It has drained a deeply carved valley in the tableland, through a thriving agricultural region, and has many prosperous cities on its banks. Our train speeds swiftly through Beaver county, at the western border of Pennsylvania, among the coal pits and forests, over an undulating surface, gradually climbing the gradient out of the Ohio valley, and leaves that river as it abruptly bends to the southwest. We then pass up the valley of the Beaver river, a considerable affluent, and after running a short distance turn westward, and in 15 miles cross the imaginary line that makes the boundary between Pennsylvania and Ohio. This is a leading State of the Mississippi valley, wealthy and powerful, a land of good agriculture and much politics, varied by

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mining and manufactures. In recent years Ohio was the President maker for the Union, but since the unfortunate assassination of President Garfield that honour has been transferred to New York. We enter the State in Columbiana and Mahoning counties, a continuation of the region of coals and iron so generously displayed in Pennsylvania, this being known as the Mahoning valley. The railroad runs for miles westward, still among iron and coals, over an undulating territory past the busy towns of Salem, Alliance, Canton, and Massillon, the latter being located in one of the most productive Ohio coalfields, and also having valuable quarries of white sandstone for building. We have now come into the border of the extensive region in the Mississippi valley that was first opened to civilization by the early French explorers, and this pretty town on the bank of the Tuscarawes river preserves the memory of the noted French preacher, Jean Baptiste Massillon. From the coals and iron the train then gradually moves into a rich agricultural region, and passes Mansfield, which bears the name of the great English jurist to show its worthy origin, and is the home of the leading political manager in Ohio, and its prominent candidate for President, John Sherman—one of the best known United States Senators. Its favourable location in such a fertile section naturally makes the little town of Mansfield an extensive manufacturer of agricultural machinery. As the railway goes over the rich farmland, the rolling surface gradually blends into the more level stretches of prairie, heavily timbered where not cleared for cultivation. We have gone entirely away from the region of the tributaries of the Ohio and cross into the valley of the Sandusky river, which flows northward to Lake Erie. Here is

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Bucyrus in a prolific natural gas region; and not far beyond the train crosses another imaginary line that makes the boundary between Ohio and Indiana and halts briefly at Fort Wayne which gives its name to the railway.

Fort Wayne is a leading town of Northern Indiana, and has probably 40,000 people. It is not only located in a wealthy farming section, but is also a centre for both railways and manufactures. Being at the highest point of the elevation diverting the waters east and west, it is known as the "Summit City." Here two smaller streams unite to form the Maumee river, which flows off to the north-east, meandering over the almost flat surface, to form the head of Lake Erie. The existence of a "summit" is thus almost imperceptible, for the land all about is a prairie, gently rolling, and without hills of any prominence. Like all of them on these broad prairies, the town is mainly built of wood. The site of Fort Wayne was visited two centuries ago by the French, who began a lucrative trade with the Indians, and prior to 1719 they had erected a trading post, and afterwards built Fort Miami. In 1760 the place fell into English hands, who also built a fort, and when it subsequently came into possession of the United States, General Anthony Wayne in 1794 erected a permanent Indian frontier fort and gave it his name. The canals and railways afterwards brought the trade that made it grow in importance. This region was the home of the Miami Indians, extending from the Maumee river westward to Lake Michigan, and southward along the valley of the Miami river to the Ohio. They were a warlike and powerful tribe, first found by the French, but afterwards, in the colonial wars, they espoused for a time the English cause, then turned again to the French, and finally

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came back once more to English allegiance, during the American revolution. This latter course provoked almost constant hostilities between them and the colonists, then settling in large numbers beyond the Ohio river, in what at the time was designated as the "North-West Territory," out of which the States of Ohio, Indiana, and Illinois were carved. Under the skilful leadership of their renowned chief, Mishekonequah, or the "Little Turtle," they defeated repeated expeditions sent against them, some with heavy loss, but were finally beaten by Wayne in 1794. The Miamis after this overthrow declined in importance, and through the inroads of dissipation and vice had finally dwindled to barely 250 persons when they were removed to a far Western reservation 40 years ago. Some distance beyond, at Warsaw, Indiana, we cross the Tippecanoe river, a stream about 200 miles long, flowing south-west to the Wabash, and thence to the Ohio river. It is noted for the later and even greater Indian defeat on its banks in 1811, when General Harrison, afterwards President of the United States, repulsed a combined force of several tribes united under Tecumseh's brother, Elskwatawa, or the "Prophet." These two chieftains were Shawnees, and they preached a crusade by which they united all the Western tribes into a concerted movement to resist the encroachments of the white man. The brother, who was a "medicine man," set up as an inspired prophet in 1805, denouncing the use of liquors and of all food and manners and customs introduced by the whites, confidently predicting that they would be ultimately driven from the land. For years these men travelled over the country stirring up the Indians. General Harrison, who was the Governor of the district, advanced against the prophet's town on the Tippecanoe, when

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the Indians suddenly attacked his camp, but were signally defeated. After this, the late war between England and the United States broke out, when Tecumseh espoused the Royal cause, and, appearing in Canada with a number of his warriors, the British made him a brigadier-general. He was killed in the battle of the Thames in Ontario. It is said he had a premonition of death, and laying aside sword and uniform he put on his hunting dress and fought desperately until killed. Tecumseh was the most famous Indian chief of the West.

While swiftly rolling over these broad and, in sections, densely-wooded prairies that form Northern Indiana the dawn of day came upon us, and the gathering light gradually unfolded the wealth of agriculture that makes these people so prosperous. The region of mines and coals and iron and of flaming gas torches had been left far behind, and the train had entered the purely agricultural district, spreading thousands of miles south and west of the great lakes—a district tributary chiefly to Chicago. The little towns along the railway were frequent, having grown up from the village store and cross-roads, expanded by the business of the railway and the facility and cheapness of construction of wooden houses within brief periods from small hamlets to ambitious towns. This section not so long ago was the "West," but the quick march of events in the new country and the expansion of population have removed the "West" of to-day far beyond the Mississippi. The older States of this region have for some time put on the maturer garb of the sedate seaboard communities, and, having passed the adolescent stage, are now liberal contributors to the great tide of migration which is filling up the far Western country still 1,500 miles further beyond us. The towns the railway passes

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are all anxious to become great manufacturing centres, and some have already established large and prosperous mills. They have the prevalent "natural gas craze" well developed, and the tall derricks erected over the boring wells on their borders show how they are delving into the depths of the earth, with the hope that the good luck of Pittsburg and Findlay, in Ohio, and some other places may strike them, and the bonanza of cheap natural gas fuel put them on the high road to wealth. The level country is well supplied with railways, which cross and recross each other's lines in all directions, and mostly at grade, for they are almost all built upon the same level. We glide over the prairie in approaching Chicago, through a district which has been well described as having "a face but no features." It is easy railway building upon this flat surface, for it seems only necessary to dig a shallow ditch on either side of the line, throw the earth in the centre, and lay the rails upon it. Nature has made this prairie as smooth as a lake, so that scarcely any grading is necessary, and after the patches of forest give place gradually to the universal grass-covered plain that borders Lake Michigan you can see far away in every direction, as if looking over the ocean. As Chicago is approached the converging of other railways towards the same goal shows how the great lake city is the universal Mecca of American railway managers. The train crossed a score of other lines, and getting at last into a perfect maze of railroads and car-yards, it gave not only an impressive lesson of the evil of grade crossings but also convincing proof of arrival at last at the greatest railway centre in America—all the growth of the last half century.

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XXIX.—THE METROPOLIS OF THE LAKES.

An overhanging pall of smoke; streets filled with busy, quick-moving people; a vast aggregation of railways, vessels, and traffic of all kinds; and a paramount devotion to the Almighty Dollar are the prominent characteristics of Chicago. The name of this wonderful city is of Indian origin, a probable corruption of "Cheecaqua," said to have been the title of a dynasty of Indian chiefs who ruled the country west and south of Lake Michigan. This was also a word applied in the Indian dialect to the wild onion that grew luxuriantly on the banks of the river; and they also gave a similar name to the thunder, which they believed to be the voice of the Great Spirit, and to the odoriferous animal that abounded in the neighbourhood which to the white man was known as the "polecat." These are seeming incongruities of use for the same word, but it has been suggested that all may be harmonized if Chicago be interpreted as meaning "strong." The Indians were usually not over supplied with words, and they generally selected the most prominent attribute in naming an object. All these various things in one way or another are undoubtedly "strong," and it is equally evident that a prodigious amount of strength exists in Chicago. The broad prairies bordering Lake Michigan were the hunting grounds of various tribes of the Algonquin nation, and particularly of the "Illini," meaning the "real

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or superior men," from whom is derived the name of the State of Illinois and of its chief river. The French—as was the case throughout the north-west—were the earliest white explorers, Marquette, the Jesuit missionary, coming here as early as 1673, and afterwards Hennepin, Joliet, and La Salle, whose names are to this day reproduced numerously in the West. The French built here "Fort Chicagou," and held it until England secured Canada. These adventurous Frenchmen had a keen eye for business, and sent out shrewd traders with their missionary expeditions, so that by opening lucrative barter with the Indians, as well as establishing the church and school, they acquired great influence over the children of the prairie, who were mainly hunters and fishermen, growing a little maize, but intensely warlike and engaged in frequent conflicts. The Indians in the immediate neighbourhood of Chicago river were known as the Pottawottamies when the earliest American settlers ventured to this frontier. They were hostile, and the Government in 1804 built Fort Dearborn to control them, near the mouth of the river. They joined Tecumseh's crusade, and in 1812 attacked and captured the fort. But it was afterwards re-established, and as civilization advanced the Indians succumbed, and were finally removed west of the Mississippi. It is supposed that about this time the noted transaction in land took place on the low-lying shore of Lake Michigan, whereby, tradition says, a large portion of the present site of Chicago was sold for a pair of boots.

Most mundane things arise from humble beginnings. When the Chicago town site was originally surveyed 12 families lived here, besides the garrison of Fort Dearborn. In 1833 the town government was organized, and it then covered

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569 acres, there being 175 buildings, 550 inhabitants, 29 voters, and aggregate property valued at £12,000. Five trustees ruled the town, and they collected £9 16s. for the first year's rates. It was in September of this year that the Pottawottamies agreed to migrate to the reservations set apart further west, and 7,000 of them assembled in grand council at Chicago, and sold to the United States Government 20,000,000 acres of their lands around Lake Michigan, in the States of Indiana, Illinois, and Michigan, for £220,000. In 1837, when Chicago got a charter as a city, there were only 4,170 population. Its rapid growth during the half-century since is unparalleled even in America. Yet it has had set-backs in its wonderful career, and some of the most awful kind, for in everything is Chicago entirely great. The fire in October, 1871, the most gigantic of modern times, swept the city for three days, burned over nearly four square miles and until nothing remained to devour, destroyed 18,000 buildings, 200 lives, and property valued at 40 millions sterling, besides bankrupting many of the American underwriters. But vast as was the destruction, equally great has been the recovery. The enterprising people, while the embers were yet smoking, set to work with a will to rebuild their city, and the whole world, who had been amazed spectators of the calamity, aided not only by words of encouragement but by substantial relief contributions reaching £1,400,000. The rehabilitated city has since progressed with an energy not before equalled. It is the advantageous position of Chicago at the south-western extremity of Lake Michigan, with bordering prairies of the greatest fertility stretching many hundreds of miles south and west, that makes it the primary food gatherer of the United States, and has expanded the 12 families scattered around

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Fort Dearborn in 1831 to a population approximating 800,000 now. Michigán, in the Indian dialect, means the "great lake," and it is an enormous inland fresh water sea, 320 miles long and 70 broad, having an average depth of about 1,000ft., the surface being elevated 578ft. above the ocean level. Yet this vast lake on the Chicago side has but a narrow watershed, the Illinois river, draining the region to the westward, being formed only 45 miles south-west of the lake by the union of the Kankakee and Desplaines rivers. This narrow and very low watershed, together with the enormous capacity of the Illinois river valley, which is at a much lower level, and appears as if worn by a mighty current in former times, is regarded as evidence of the probability that the waters of Lake Michigan may then have found their way to that outlet, and flowed through the Mississippi to the Gulf of Mexico.

The diminutive bayou of the Chicago River, with its two short and tortuous branches, made Chicago the chief lake port, and thus brought its trade, so that the town early in the race outstripped all its western rivals. Every railway of any pretensions sought an outlet or a feeder at Chicago, and the American phrase of a "trunk line" was coined to mean a line of rails from Chicago to the seaboard. The surrounding prairie for miles is crossed in all directions by railways, and a large portion of the city and its suburbs is made up of series of huge stations, car yards, elevators, cattle pens, and storehouses, that almost overwhelm the visitor with the prodigious scale of their elaborate perplexity. The profits of their traffic have piled up grand buildings on the broad streets in the business section, and the long rows of dwelling-houses are running out for miles over the prairie. Chicago is the world's

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greatest corn, cattle, and timber market, and this energetic and enterprising city contains probably more of the speculative, extravagant, shrewd, and reckless elements of American humanity than even New York. It has attracted people of all nationalities, and they flourish in native luxuriance. The Irish Fenian and the Continental anarchist are in full development, but are under control. Theatres and concert gardens are in successful operation on Sunday, and the necessity of the over-strained people for constant artificial stimulation is probably the reason why Chicago seems to contain a much more liberal supply of spirit and beer shops than almost any other community. Everything is allowed to go on without much hindrance, and thus the place grows unstinted. Chicago also has an advantage in commanding the entrance to the great North-West, nearly all the routes to that vast region of limitless future expansion leading through Chicago, and much of its financial and business interests being controlled by the Chicagoans. The people are very proud of their city's amazing progress, but are generally so engrossed in pushing their business enterprises and in piling up fortunes that there is little time to think of much else.

The ruins of the great fire have been obliterated by the new and magnificent city that has risen on the shore of the lake, with better buildings, constructed of imperishable materials, replacing the original structures, largely wooden houses, which then fed the flames. Down by the lake side there now stands on guard the solid stone tower of the waterworks, rising 160ft., at which to get the proper head of water, and over the top four enormous pumping engines force 75 millions of gallons daily. Far out on the clear green surface

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of the lake is seen the "Crib," with its surmounting lighthouse, whence the water supply is drawn into the tunnel that feeds the pumps. From the top of this tall tower there is a grand view over lake and city, the former clear and beautiful as far as eye can see—a strong easterly wind dashing its breakers against the shore; the latter largely enshrouded by the enveloping pall of smoke and puffing steam jets that rise above the buildings. To the north, on the edge of the lake, is the distant green foliage of the Lincoln-park. This is the nearest of the extensive series of beautiful parks, with connecting boulevards, which enclose the city, stretching completely around from the shore above to the shore below. That somebody in Chicago has found time to design these parks and put such beneficent work into execution has been an admirable thing for the people. The broad expanse of prairie was low, level, and treeless originally, but art has planted abundant foliage, with little lakes and miniature hills, ornamented by beautiful flower gardens and shrubbery, large sums being spent upon their care and steady development. The Drexel Boulevard, one of the routes to the South-park, 200ft. wide, is the finest of the connecting roadways, and is destined to be among the celebrated avenues of America. This broad parkway has a magnificent drive on either side of a central walk for pedestrians, the latter winding among picturesque gardens, and the whole well shaded, though the trees are yet young. The finest residential street of the city is Michigan-avenue. This is a boulevard bordering the lake, and fronted by a park stretching down to the water, where it has an edge of railways, with their rushing trains, like everything else here. Further south grand residences are upon both sides of this avenue, which is the popular drive-

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way. It is the "Rotten-row" of Chicago, where all the elaborate turnouts go for an airing.

The river of Chicago, like its railways, testifies to the pressure of trade. A multitude of swinging bridges cross over it, and two tunnels are carried under, to accommodate the traffic. The huge grain elevators are stationed along its banks, and vessels lie alongside, with streams of corn pouring in. A few weeks ago, when the elevators were all filled and more storage room was needed, another was built in a hurry, being completed within two weeks, and big enough to hold 400,000 bushels. The wide streets, generally 80ft., facilitate the enormous amount of moving traffic in the business section, though at times they are almost uncomfortably crowded. While the level of the surface near the lake is but 14ft., and is in no case elsewhere higher than 30ft., above the water, the drainage is tolerably well protected. The city has some fine suburban residential sections fronting the lake and adjacent to the parks and boulevards, and already many of the wealthy townsfolk have built themselves palaces to live in. It also has magnificent public buildings erected since the great fire for the purposes of the National and City Governments. Its grand business structures soar skyward, as in New York, and are filled to the topmost story with offices, where the trade of the town is transacted, and the hundreds of visitors and customers are swiftly carried to the upper regions by the ever-moving lifts. This trade of Chicago is something almost astonishing to contemplate. The great "North Woods" that cover Michigan, Wisconsin, and Minnesota, and spread far over the Canadian border, get most of their outlet through Chicago, and the timber yards are a considerable part of the city's surface, there appearing to be enough boards

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and planks piled up to supply a half-dozen States. The 25 elevators will hold as many millions of bushels of corn, and vast quantities are also stored in railway cars or aboard vessels. It is not infrequent that one-third of the entire "visible supply" of wheat and maize in the United States is stored at one time in Chicago, while the extensive western regions, which are tributary, will be ready when required to pour in as much more. These are the great American cereals, the last wheat crop having been 457 millions of bushels, and the last maize or Indian corn crop 1,665 millions of bushels. The Indian corn is the chief food of the animals on the farm, and only a moderate amount of it is marketed, but the wheat is sent out to feed the world, and a large part of it through Chicago, 100 million bushels sometimes being exported to Europe in a single year.

Vast as the breadstuffs movement may be, the trades for which Chicago is equally noted are in hogs and cattle. The hog is regarded as the most compact form in which the Indian corn crop of the States can be transported to market. Hence the corn is fed to the hog on the farm, and he is sent to Chicago as a package provided by nature for its utilization. A ride out among the rows of wooden buildings still existing by the square mile in the southern suburbs, as if to tempt another great fire, leads to the "Union Stock Yard." The extensive enclosure is entered through a modest gray sandstone, turreted gateway, surmounted by a carved bull's head, and the cattle pens stretch far away on either hand. This stock yard is a town of itself, with its own banks and hotel, "Board of Trade," post-office, town-hall, and special fire department, the latter being a necessity, as it occasionally has very destructive fires. About $400,000 has been invested in this undertaking.

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which covers nearly a square mile, a large part of it being cattle pens, through which lead eight miles of streets, and having sufficient capacity to accommodate 200,000 animals at one time. The scene in this place is most animated, the cattle men riding about on horseback, driving their herds, while adjacent are the immense "packing houses" that prepare the pork and beef for market. During the past twelvemonth these establishments have killed and packed 4,426,000 hogs and 1,608,000 beeves, their product going to all parts of the world. This represents a very large proportion of the whole number of these animals in the States which are fatted to kill, for at the opening of this year it was estimated there were in the country, of hogs of all ages, 44 millions, and of cattle, exclusive of milch cows, 33 millions. The products of the packing reach enormous figures, being no less than 1,055 millions of pounds of pork and lard for the year and 573 millions of pounds of dressed beef. A very large proportion of the pork and lard, 810 millions of pounds, were exported beyond the States, and of this 90 per cent. went to the United Kingdom. The packers say their hog trade does not increase, but their beef trade grows at an extraordinary rate. The "Chicago dressed beef," sent in "refrigerator cars" all over the country, is largely supplanting the butcher's services for the dead meat markets of the States, and much of it, packed in refrigerator apartments on steamers, also goes abroad. The railways all have extensive terminals in connexion with this great stock yard and the packing houses, bringing in the live animals by hundreds of car loads and taking away the pork and lard and the dressed beef in long lines of refrigerator cars, the invention of ingenious methods for "cold storage" having been a fruitful subject of Yankee genius.

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In converting the hogs and cattle into pork and beef, the chief establishment is Armour's, which does about one-fourth of this business in Chicago. The works connected with the stock yard cover about 30 acres, and of this 20 acres are used for "chill-rooms" and storage, for all the fresh meats are kept at a temperature of about 35deg. to 40deg., and the pork is also cooled for about 48 hours after killing before being packed. In the various buildings there are 80 acres of floor space. An army of 5,000 persons is employed in these works, which turn out all kinds of meats—green, salted, pickled, spiced, smoked, and canned. During the twelvemonth the Armour establishment slaughtered 1,113,000 hogs, 380,000 beeves, and 86,000 sheep, and the sales of their products reached over 10 millions sterling, the goods, weighing about 331 millions of pounds, being sent to market in various parts of the world. The processes of slaughtering and dressing are reduced to the most expeditious and economic principles, and in many respects have become a fine art. To kill and prepare 12 to 15 hundred beeves and eight to ten thousand hogs in one day requires a complete system. The steers are driven into long pens, and an expert rifleman, walking upon a platform over them, discharges a rifle shot into the brain just behind the horns. The killing is instantaneous, the steer, without even a groan, falling like a log. The animal is then drawn forward from the pen, the hide quickly removed, and the carcass prepared and cut up ready for storage in the "chill rooms" and subsequent shipment. These beef-killing processes are speedily performed, but the science most thoroughly developed is the hog-killing. These animals are driven up an inclined roadway into a pen in the upper part of the packing-house. Men keep the procession con-

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stantly moving, and when the hog arrives at the proper place, a chain is deftly fastened round his hind leg. The steam machinery jerks up the squealing hog, so that he hangs head downwards upon a sliding frame; his throat is cut, the blood-spouting carcass slides along the frame, and, in a moment, being drained of blood, it is dropped into a vat of boiling water. This scalds it, and being quickly lifted out it rolls over a table into a revolving machine that scrapes it clean of bristles. Then the carcass is passed along a sliding table, washed, again hung up, beheaded, disembowelled, split down the middle, and then sent upon a lengthened inclined railway to be hung up to cool. An army of men standing alongside the machinery perform the various duties, as the carcasses transport themselves by gravity through the different processes, which succeed each other with such rapidity that in a few minutes the porker is finally disposed of. This is done by moving the carcass to a broad block, where half-a-dozen butchers standing around simultaneously attack it, and in a twinkling it is converted into hams, sides, and shoulders, and the various parts are sent off to their respective apartments. Every portion of the hog is utilized for meats, lard, sausages, or canned goods, and the blood and other offal are converted into a fertilizer. Enormous sausage-making machines grind and cut the scraps, and scores of women are busily engaged in packing and labelling the tins. These wonderful processes attract many visitors, and the American rustic who has been accustomed to the farmer's Christmas frolic of the "hog-killing," where elaborate preparations are made for the slaughter of probably half-a-dozen, looks with amazement upon this wholesale summary disposal of the animals in Chicago. Great as this wonderful city is in everything, it seems

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that the first place among its strong points must be given to the celerity and comprehensiveness of the Chicago style of killing hogs.

For her grain and provision trades, of which Chicago is very proud, she has recently erected a grand monument and abiding place at a cost of more than £200,000. At the head of La Salle-street, and making a fitting close to the view along that highway of imposing business structures, stands the tall building with its surmounting clock and spire of the Chicago "Board of Trade." It is one of the elaborate architectural ornaments of the city; and the animated and, at times, most exciting business done within, marks the nervous beating of the pulse of this metropolis of corn and meat. The interior is a magnificent hall, lighted by high-reaching windows and surmounted by a central skylight nearly a hundred feet above the floor. Grand columns adorn the sides, and the elaborate frescoes above are in keeping with the artistic decoration of the place. Upon the broad floor, between 9 and 1 o'clock each day, assemble the wheat and corn and pork and lard and railway kings of the town, in a typical American life scene of concentrated and boiling energy, feeding the furnace in which Chicago's high-pressure enterprise glows and roars. These gladiators have their respective "pits," or amphitheatres, upon the floor, so that they gather in three great groups, around which hundreds run and jostle, the scene from the overlooking gallery, as the crowds sway and squirm, and with their calls and shouting make a deafening uproar, being a veritable Bedlam. These "pits" deal respectively in wheat, Indian corn, and pork; while in a fourth space, with extensive enclosed desks, a regiment of telegraph operators work with nimble fingers to send instant reports of the doings to the

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outer world. High upon the side of the grand hall, in full view of all, are hung three huge dials, whose moving hands keep record of the momentary changes in prices made by the noisy and excited throngs in the "pits," thus giving notice of the ruling figures for the next month's "options" for wheat, Indian corn, and "short ribs," for these exciting transactions are largely speculative. A bordering fringe of tables for samples, or for writing, and an array of large blackboards, bearing the figures of market quotations elsewhere, enclose this animated scene. This Chicago "Board of Trade" has witnessed some of the wildest excitements of America, as its shouting and at times almost frenzied groups of speculative dealers in the "pits" may make or break a "corner;" and here in fitful fever beats the pulse of the great city whose exalted province it is to feed the world.

XXX.—THE GREAT CITY'S LEADING SPIRITS.

There is a general belief among the people of Chicago, which is shared by a large body of thoughtful Americans, that the rapidly-growing city upon the bank of Lake Michigan is destined to become ultimately the largest and most important in the States. Its unrivalled advantages and unexampled expansion would seem to foreshadow this, for it pushes ahead with boundless energy, and is having an amazing accumulation of wealth and an astonishing development in all directions. Already a movement has been started for bringing under the Chicago municipal government the various suburban towns, which will in-

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crease the population beyond one million and make it probably the second American city. The amount of business done in Chicago is second only to that of New York. It steadily attracts the shrewdest men of the great West to take part in its vast and profitable enterprises, and it is in such a complete manner the depôt and storehouse for the products and the supplier for the enormous prairie region around it, and for the great North-West and the country as far out as the Rockies and the Pacific, that other Western cities cannot displace or even hope to rival it. Yet at the same time so youthful is this municipal giant and so recent has been its marvellous growth that scarcely any of the leading spirits who are making it what it is were born here. Almost all came to Chicago after attaining manhood, being attracted by its business advantages. The New England race and the New York Yankee, who is descended from New England stock, have been the chief builders and developers of Chicago, and are to-day its most prominent men in public spirit, in trade, and in wealth.

I have already referred to the Chicago trade in meats and provisions, and in this connexion described the extensive operations of the Armour packing houses. This vast establishment conducts the largest annual business among the great houses of America. Philip D. Armour, the head of this enterprise of beef and pork, is in middle life, and was of New York origin, a bluff, hearty, and vigorous, hard-headed business man. Whether it be in meats or in wheat, or in railways, or in anything else, he is fully imbued with the expansive and versatile trading spirit of Chicago, and is always ready for any operation, no matter how extensive or intricate, that presents fair opportunity for profit, Chicago also possesses the

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greatest merchant of America. It might be supposed that New York would be the city most likely to have the largest purely mercantile establishment in the United States, and such was the case in the last generation, when Alexander T. Stewart was the leader of trade there. But changed methods have come with newer people, and the western world of America is advancing. Chicago used to be in debt to New York and dependent for supplies. Now the Lake City is not only out of debt but is herself very rich and a creditor of the country further westward. Her merchant princes long since cut themselves loose from New York intermediaries and are now buyers at first hands, while they have a boundless and rapidly-growing region to supply. The leading Chicago merchant, whose house conducts the largest purely mercantile business in the country, if not in the world, to-day, is Marshall Field, a modest man, of New England birth, who is also the wealthiest citizen of Chicago and of the entire State of Illinois, having a fortune estimated at £4,000,000, and being the head of a great dry goods and miscellaneous establishment, with annual sales exceeding £6,000,000. His extensive retail mart is in State-street, and in another part of the city an entire block is occupied by the magnificent building wherein is conducted his wholesale trade, extending to the remotest parts of the country. Marshall Field is regarded as the leading Chicago merchant of the present very active generation.

There are scores of other great Chicago merchants whose stores are architecturally imposing piles that cover acres, and whose wealth and trade have also made them multi-millionaires. Prominent among them are the Farwells, whose house is probably second only to that of Field. They are

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in the front rank of the builders and developers of the great city, and one of the brothers, Charles B. Farwell, is United States Senator from Illinois. These huge store buildings are as impressive in Chicago as they are in New York. Many blocks are occupied by them in the business section—through which runs the chief highway—State-street. The visitor to Chicago is always impressed with this magnificent highway, 125 feet wide, lined with splendid buildings and crowded with busy people. This famous street owes much of its development to another Chicagoan, of New York birth—Potter Palmer—who originally bought a frontage of one mile upon this street, extended and widened it, embellishing it with splendid structures that made it the leading street. Palmer, who was a great sufferer by the Chicago fire, is best known to the public to-day on account of his hotel, the "Palmer House," which is said to be the most profitable hotel property in the United States, the country of big hotels, and is a remarkable type of the American caravanserai. Upon Mr. Palmer's splendid fireproof structure £500,000 has been expended in building and decoration. The word "hotel" in its broadest sense in the States includes much more than merely food and lodging. It means, in addition, a sort of public club. There are extensive parlours, reception, reading, writing, and smoking rooms, lifts constantly running, electric call bells and lights, with complete attendance and messenger service; billiards, pool room, ten-pin alley, most gorgeous bar and barber's shop, each having a fortune invested in their decoration; the eating rooms that keep going from before daylight till past midnight without interruption; the restaurant, wine and coffee rooms; an aggregation of all kinds of shops where everything needed can be bought without

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going out of doors; news-stand, railway booking office, and luggage "checking" department; boots, coat and parcel rooms, hotel post-office, telegraph station, and general telephone. Then there is the hotel "office," a most surprising bureau of odds and ends, where one can get pens, ink, paper, and envelopes, cards, telegrams, and letters, cigar lights, matches, and toothpicks, can consult directories, and ask all sorts of questions about all kinds of things, and have them intelligently answered by that most omniscient being, the "hotel clerk." Telegraphic stock and market "tickers" and general news bulletins are conveniently placed to report the latest news, and particularly the speculative market quotations, to gratify the thirst the guests have for such knowledge, while a broker's office and special stock and grain exchange are invitingly open, so that an immediate "flyer" in corn or pork or stocks may be taken. The capacious hall in front of the office is a news exchange for the busy town, who bustle and talk, and give, in the swarming crowds who throng there, an active business air. Such is the generous aggregation given in a great hotel for "five dollars a day on the American plan," and the visitor surely gets his money's worth.

The business activity of Chicago is such that its leading bank, the "First National," at times does a larger banking movement than any of the greatest banks in New York. Another of the prominent men in moving the industries of Chicago is L. J. Gage, the banker, who manages this bank in its large building on Dearborn-street, and has a force of 150 clerks to keep the accounts. With £600,000 capital and £200,000 surplus this bank has sometimes nearly £5,000,000 deposits, and will have £12,000,000 clearings in a week, besides a vast exchange business with New York

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and London, based upon the immense eastward movement of corn and provisions on through bills of lading. It takes a clear head and resolute will, with great banking ability, to manage the exchanges and credits of such a place as Chicago; but this bright-eyed banker inherits from his Yankee ancestry the skill that for 20 years has controlled the banking policy of the great city, and done very much to assist its marvellous growth.

Probably the best known Chicago name throughout America, as well as abroad, is that of Pullman, which has become a word synonymous with all the phrases that describe the completest comfort in railway travelling. George M. Pullman came from New York, and was originally a cabinetmaker, his first services to Chicago being in devising ingenious methods for raising its buildings, some 30 years ago, when it was decided to place the city upon a higher level in order to secure drainage. He raised the buildings by putting hundreds of jackscrews under them, while trade went on without interruption during the process. In those days the appliances for securing the comfort of the railway traveller on long journeys were in their infancy, and the first rude attempts were being made to devise a sleeping coach. Mr. Pullman on one occasion went into a sleeping coach upon a night train and laid down upon the berth, but did not sleep. He was stretched out upon the vibrating couch for about two hours with eyes wide open, and in that time had struck upon a new idea. When he arose and left the train he had determined to develop from his brief experience of that inchoate sleeping berth a plan that was destined to expand into the completest and most comfortable coach for the traveller, either awake or sleeping—a home upon wheels. During several years he revolved the project in his

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fertile brain, and his first experiment was made in 1859, when he turned two ordinary passenger coaches into sleeping cars, and placed them upon the night trains of the Chicago and Alton Railway between Chicago and St. Louis, one running each way. He charged 2s. for a berth, and the first night his receipts were 8s. When Pullman settled in Chicago permanently and began this business, he thought himself well-to-do in the world with a capital all told of £1,600.

The development of the sleeping-car project, which is the history of a busy life, shows the possibilities of the Great West, both in the effect of the growth of a city and a business in the expansion of a man, and the influence of a man in building a city. It was not until he had run his experimental coaches for about five years that Mr. Pullman felt able to carry out his plan as he had evolved it in his brain, and he then built his ideal sleeping coach. This took a year to construct, in 1864-65, and was built in a rude shed in a railway car-yard in Chicago. He called it the "Pioneer," and it cost £3,600, and in it he developed his idea of harmony, which combined comfort and luxury with attractiveness of decoration, and when finished it was regarded as a marvel far in advance of any railway coach construction of that day. This first coach is still doing daily and profitable duty upon the Pullman lines. But when it was completed, although its fame travelled far, yet it was so heavy, so wide, and so high that no railway could undertake to run it, as it necessitated elevating bridges and cutting off station platforms. He had a famous white elephant on his hands, but he bided his time. Suddenly President Lincoln's assassination profoundly shocked the country, and the funeral, with its escort of mourning statesmen, was progressing from Washington to Chicago

on the way to the grave at Lincoln's home in Springfield, the capital of Illinois. The nation was watching its progress, and the railways transporting the *cortêge* were doing their best. The railway between Chicago and Springfield asked for the use of the "Pioneer" in the funeral train. They sent out gangs of men, and cut off the station platforms, elevated the bridges, and took several days to prepare the line, so that the coach could go over it, and Pullman's dream at last was realized. His coach of the future carried the dead President to his grave, and became known throughout the world. A few weeks later General Grant, the conqueror of the rebellion, had a triumphal progress from the camp to his Illinois home. Five days were spent in clearing the railway between Detroit and Galena, where he lived, and the "Pioneer" carried the General over that line.

Mr. Pullman then had the future in his own hands. The public had seen his coach, and the most distinguished men had been riding in it. They would be satisfied with nothing inferior, and the railways began demanding the coaches. The lines leading out of Chicago used them, and before long they were put upon the Great Pacific and the Pennsylvania lines. The result is "Pullman's Palace Car Company," which to-day has invested in its works and coaches nearly six millions sterling, and is besides the greatest railway carbuilder in America, furnishing all kinds of equipment to railways from Canada to Texas, and having 1,400 of its own palace coaches running, to carry the first-class passengers upon 80,000 miles of American railways, stretching from the Atlantic to the Pacific, and from Halifax and Quebec to San Francisco and the city of Mexico, as well as much more in Europe. These coaches run into every city in the States, and cover nearly

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all the available mileage, the Wagner coaches upon the Vanderbilt lines being largely constructed after the Pullman style, and many of them built at the Pullman shops. So prosperous is the company that it regularly makes 8 per cent. dividends, has a very large surplus, and a yearly income of about £1,200,000 from these coaches. Besides building equipment for railways amounting to £2,000,000 annually, and running its own coaches, the Pullman Company also provides for excursion parties. It often happens that a congenial party will charter a coach or a train and go about the country sight-seeing for weeks and months. They have no anxiety or trouble about their home upon wheels, the Pullman people moving them and providing for all their wants. One of the prominent excursion agents of the States who cater for the best class of sight-seeing travellers—Raymond and Whitcomb—are this year paying the Pullman Company about £16,000 rental for the use of their coaches, the hiring being at the rate of £7 a piece per day. I have already described the "Chicago Limited Express." Mr. Pullman is now preparing to equip a transcontinental train of similar character and appointments, which will be run between New York and San Francisco, a weekly train each way, reducing the time of transit across the Continent, now occupying six days, to within 100 hours. He is also preparing to place a train of the vestibule coaches upon the London, Brighton, and South Coast Railway between London and Brighton. This vestibule buffer, which has already been described, is regarded as a sure preventive of "telescoping" in cases of collision.

Another Pullman enterprise will have great interest for English readers. The company so rapidly expanded into enormous business that a

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few years ago it became necessary to provide permanent construction shops for its works near Chicago. The result has been the building of the model manufacturing town of Pullman, about 10 miles south of Chicago, and practically a suburb of the great city. It has been all made within seven years, upon a tract of land that had no inhabitants as late as 1880. Lake Calumet, an oval sheet of water, about three miles long, is situated a short distance inland from Lake Michigan, and the Illinois Central Railway passes south from Chicago on its long journey to the Gulf of Mexico, a short distance to the westward. A tract of nearly 4,000 acres was acquired with this railway running down its centre, and stretching along the narrow strip between the lake and the railway is the town of Pullman, spreading for almost two miles, with its shops and parks, its ornamental grounds and comfortable homes for the operatives. Riding down the line of the Illinois Central, over the flat land and among the succession of villages which have grown up between Chicago and Pullman, the visitor alights at one of the best station buildings seen on the line, and finds the new settlement in front of him, spreading far on either hand. There is a fine hotel, which is a model of artistic design and worthy of the largest city; and across the park, with its ornamental grounds and lake, are seen the extensive shops, with their clock spire and huge water tower rising high above. The Pullman town, like the Pullman coach, is a model of neatness and elegance. Flower beds and lawns front the shops, and the solid walls enclosing the grounds give them quite an English air. Stretching across the town from the station to Lake Calumet is a wide boulevard, shaded by rows of elms—the One Hundred and Eleventh Street in continuation of the numerical order of South Chicago

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—and this divides the workshops from the residential portion. Five noble avenues stretch southward from it, each appropriately named after an inventor closely identified with the varied industries of the place—Stephenson, Watt, Fulton, Morse, and Pullman—and upon these the cottages of the operatives are built.

No place in the United States has attracted more attention or been more closely watched than Pullman. Like the sleeping coach, the town is the development of an idea, worked out to harmonious and successful results by its inventor. It is the extension of the broadest philanthropy to the working man, based upon the strictest business principles. There has been £1,500,000 invested in carrying out this idea, and every penny is at the same time made to return an income. The operatives in the first instance are employed upon wages paid every fortnight, and their earnings are said to exceed those of any other community of working people in the United States, averaging per capita (exclusive of the higher pay of the general management) £118 per annum. There are some 4,000 operatives, and the pay disbursed in money every fortnight is about £20,000. The company, in order to secure the best return, seeks to provide in the completest possible way for its people. Their workshops, covering about 83 acres, are constructed in the most airy and healthful manner, and upon these about £750,000 has been expended. An equal amount has been invested in building the residential portion of the town, the public edifices, and in the public works and decoration of the place. Everything is constructed of bricks made upon the estate, out of clay taken from the bed of Lake Calumet. The first investment was in a complete sewerage system, the sewage being all pumped up and sent away by gravity to

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a large farm three miles off, where it is utilized, and this cost £60,000. Then a complete water-works system was devised, the pure water from Lake Michigan being brought in and elevated to the top of a huge water tower and reservoir, from which an ample supply is led into every house in the town, no matter how humble. Competent architects and landscape gardeners skilfully laid out the town and built the houses, so that it is a gem of artistic attractiveness, with lawns and shade trees upon its well-paved streets, all kept in the best order by the company. All the shops where purchases are made have been collected in an elaborate structure called the Arcade, where the people do their shopping, fully protected from the weather, and a large covered market house is also provided, with a public hall in the upper portion.

Nothing is free, however, it being recognized as a lamentable fact that benefits got for nothing are not much prized. There are nearly 1,600 cottages and tenements for the operatives, and 133 new ones are building. There is no compulsion exercised about anything, and the people may live in the town or elsewhere as they see fit, so that in practice the town contains about 3,500 operatives who work for the company and about 1,000 who labour for other industries in the town or elsewhere, while some 500 of the company's operatives live outside. The dwellings are let upon a monthly rental, £1 being charged for a flat with two rooms, and 28s. to 36s. for flats with three or four rooms. The smallest separate house complete in itself contains four rooms, and this is let for £2 8s. monthly. The best cottages occupied by the working men fetch £5, and the tenant usually gets a large part of this back by sub-letting rooms to working men without families, there being no restrictions in this respect.

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The highest-priced cottages, occupied usually by officials, are £9 to £10 monthly, and contain 10 to 11 rooms, with bath, &c. Every house has both water and gas. Compared with tenements of similar character and capacity in Chicago the rentals of the latter are usually one-third to one-fifth higher, with less advantages, while the expenses of living in Chicago are about 20 per cent. higher. Pullman is surrounded by a wide expanse of agricultural land, extensively devoted to market gardens, and this, with the entire freedom given the people to buy of whom and where they please, the company having no stores for the sale of goods, makes a competition among sellers to get the cash that is in hand to be spent by the people, which cheapens all supplies. The dress goods and similar articles are sold as low as in Chicago.

The Arcade is fully rented, and the company gets £6,000 annual return from it. One of the finest theatres in the West is constructed in its upper portion, and all the travelling companies appear here. It will hold 1,000 people, and the admission prices are kept low. I attended a theatrical performance with an audience of about 700, and the house yielded £70. The company has provided for additional amusements the best athletic grounds near Chicago, for ball playing, racing, and boating. The regattas and games often attract many thousands. There is a good library maintained for a small fee, and also a bank, and in its savings-fund department the operatives have deposits amounting to £45,000. There are no saloons in the town, for no one is permitted to sell liquor, and as an additional protection sufficient land is controlled around the outskirts of the town to compel the man who must have spirits or beer to go nearly a mile over the border to get it. This carefulness, combined with

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the excellent sanitary arrangements and the vigour of a working population largely composed of people in the prime of life, makes the town an abnormally healthy place. It has for its 10,000 people only four physicians and one funeral purveyor, and they say that more could not earn a living, for the annual death-rate is only eight in 1,000 compared with 22 in Chicago. Yet births at the rate of 400 in a year, combined with the influx of new arrivals, show how the census will expand, for new houses are built in accordance with the general comprehensive plan as the increase of population may require. The householder has no care for streets, water, gas, drainage, garbage, or for the lawns and trees, as these are all looked after by the company, which thus stands in place of and does even more than the ordinary American town government, besides having its affairs incomparably better managed. There is throughout Pullman an air of artistic harmony and neatness that is very attractive; while the operatives and their families appear in a far better condition, and look as if they were of an improved class compared with those usually seen in factory towns. Schools and churches are provided, and one church—the Presbyterian—is an exquisitely beautiful building that fits as a gem into the picture. The various secret and charitable societies that have so generally spread over the States, such as the Odd Fellows, Knights of Pythias, and others, all flourish. If the content of the working men can be secured by good treatment and pleasant surroundings, then the inhabitants of this model town ought to be supremely happy. The great Corliss steam engine, looking like two enormous Cornish pumps, which was so much admired as it moved the vast aggregation of machinery at the Philadelphia Centennial Ex-

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position in 1876, has been transported to this place, and stands in the centre of the extensive workshops, furnishing the motive power which turns out £6,000 worth of completed work every day. The army of operatives who serve around it are in no way restricted in thought or action outside the shops, either in politics or religion, in their habits or amusements, or as to where or how they expend their earnings, which (less their rent) are always paid every fortnight in cash. When these wonderful industrial and philanthropic results, achieved upon the bank of Lake Calumet by one of the leading men of Chicago, are considered, it seems almost a miracle that has been wrought, even in this rapidly developing Western country, in thus turning an uninhabited prairie into a populous, industrious, and attractive town within the short space of seven years.

XXXI.—THE LAKE SHORE ROUTE.

There are half-a-dozen "trunk lines" of railway leading from Chicago to the Atlantic seaboard, and competing for what is known as the "through traffic." Their managers are the manipulators of "cut rates," and the mysterious dealers in "rebates," whose operations tell so markedly on the prices of railway shares at the Stock Exchange. To check and control them the Inter-State Commerce Law was passed, but they have managed already in its brief existence since last April to elude most of its stringent provisions. The main artery of the traffic eastward from Chicago is the Vanderbilt railway system, which has several lines across the peninsula be-

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tween Lakes Michigan and Erie, and on both sides of the latter lake to the State of New York. The best known of these lines is the "Lake Shore route," or, to be precise, the Lake Shore and Michigan Southern Railway, laid across the flat prairie land of Michigan and Indiana, and upon the southern shore of Lake Erie, through Ohio and Pennsylvania, 540 miles from Chicago to Buffalo. It is constructed upon almost straight lines over a rich agricultural region, but with scant scenic attractions. For hundreds of miles the trains cross the monotonous prairies, varied only by the savannahs and ravines of the streams, and the frequent villages of almost universal wooden houses. The surface at times is gently rolling, and there are patches of timber, usually of modern growth. The chief town of Northern Indiana—South Bend—is passed, getting its name from the sweeping southern bend of the St. Joseph River, on which it is built. This stream flows for about 250 miles, rising in Michigan, and, after making a grand circuit down into Indiana, going back again, and finally debouching into Lake Michigan. The town has busy factories, and is the seat of several flourishing Roman Catholic institutions, generally of French origin. Some distance to the southward is the Maumee River, which we have already met at Fort Wayne, and flowing eastward it broadens into a capacious bay at the head of Lake Erie. We cross into Ohio, and a few miles from the lake reach Toledo, a thriving port, built upon both sides of the Maumee River and Bay, which make a good harbour. This energetic modern reproduction of the ancient Spanish city has for its chief newspaper a sprightly sheet known as the *Toledo Blade*. There are extensive railway connexions and a large corn trade, apparently a dozen eleva-

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tors looming up in the haze overshadowing the borders of the harbour. The industries of Toledo have also had an impetus from the recent piping to the city of the natural gas from the gas wells of North-Western Ohio, not far away. The Maumee River, like most of these earlier western outposts of colonization, can tell sad stories of Indian massacre, and upon the island at the entrance to the harbour—now a pleasant park—dark deeds were done in the colonial wars.

Eastward from Toledo the railway soon reaches Lake Erie, and is laid upon its edge, almost at the water level, the breakers rolling in upon a narrow beach. Erie is the most southern of the five great lakes, and the smallest of the group above Niagara. It is elliptical in form, about 240 miles long, and covers nearly 10,000 square miles, its surface being 565ft. above the ocean level, and 333ft. above Lake Ontario, this descent being made by the Niagara River. It is a very shallow lake, the depth rarely exceeding 120ft., excepting at the lower end, and this shallowness causes it to be easily disturbed. Because of this and the scarcity of good harbours, it is the most dangerous of all the lakes to navigate. Long-continued storms, with the wind setting from one extremity of the lake to the other, pile up the waters, and have disastrous effects upon the land to leeward. From this cause the lower portions of Buffalo, at the foot of the lake, sometimes suffer serious damage. The bottom is a light clayey sediment, rapidly accumulated from the wearing away of the shores, composed largely of clay strata. The loosely aggregated products of the disintegrated strata are frequently seen along the coasts, forming high cliffs that extend back into elevated plateaus, through which the rivers cut deep channels, and the waters, taking up the earthy materials, are made turbid

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often for long distances from the land. Eastward from Toledo the surface of the plateau gradually rises, and a terrace, becoming steadily higher, is formed, that ultimately makes a bold bluff along the coast, which at Cleveland is 100ft. high. Through the precipitous cliffs thus bordering the lake the streams come rushing down in falls and torrents, and the Vermilion and some other small rivers pass through ravines of wild beauty. Toledo, Sandusky, Cleveland, Erie, and Dunkirk are harbours along the Lake Shore route, mostly made by the artificial improvement of the mouths of rivers. Yet the Maumee at Toledo is the largest stream flowing into the southern coast of the lake, for it receives no rivers of importance, and drains but a narrow margin of country. Lake Erie carries an enormous commerce of great value, more, in fact, than any of the others, yet it has no romances nor any pretensions to beauty.

The railway, going some distance inland, crosses the head of Sandusky Bay upon a long trestle bridge, giving a distant view of the entrance to the harbour, the spires and elevators of the town, and the shipping. The shores are low, and the line curves gradually around, and runs among the savannahs on the eastern bank down to a station on the edge of the city. This low-lying and liquid-looking region is without attractions of scenery, but they have not inaptly given one of the suburban stations among the waters and lagoons the name of Venice. Vineyards are planted on these flat and sunny shores, and it is one of the prolific grape-growing sections of the States. The grand bay, 20 miles long and in places six miles wide, attracts much commerce, especially with Canada, and Sandusky is a leading town in the manufacture of hard woods and the handling of timber. East of Sandusky the rail-

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way is laid upon the level and gradually rising plateau towards Cleveland, but without giving much opportunity to view the lake on account of the intervening groves of trees. One of the branches of the railway, about 35 miles west of Cleveland, passes the leading educational foundation of Northern Ohio—Oberlin College—named in memory of the noted French philanthropist, and founded in 1833 by the descendants of the Puritan settlers of this region to carry out their idea of thorough equality. It admits students without distinction of sex or colour, and occupies eight commodious buildings, having over 1,500 pupils, almost equally divided between the sexes.

The train finally glides down grade into the ravine of a tributary of the Cuyahoga river, and out to the Cleveland station upon the lake shore in front of the city. This is the chief city of Northern Ohio, 620 miles west of New York, and the most attractive upon Lake Erie, its commanding situation upon a high bluff falling off precipitously to the edge of the water making the site most charming. It is embowered in trees, including many elms, and hence delights in the popular title of the "Forest City." It is usually largely enveloped in black coal smoke, and its streets and soils on slight provocation produce a cream-coloured, powdery dust—unpleasant attributes, but showing that the city has extensive manufacturing industries and a large street traffic. The crooked Cuyahoga river flows with wayward course down a deeply washed and winding ravine, and this, with the tributary ravines of some smaller streams, is packed with mills and foundries, whose very live chimneys keep the business district constantly under a cloud of smoke. A dozen railways, with their spreading

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arms, run in all directions through these ravines, and their locomotives, also belching smoke, add to the din and dirt. High above all, the city has spanned the ravine with a grand stone viaduct nearly a mile long, and costing half-a-million sterling, and from it one can look down into the black hives bordering the river, where the grimy yet profitable business is conducted that has done so much towards making Cleveland progressive and wealthy. Further up are acres of timber yards, and here also are located the works of the Standard Oil Company, the powerful combination controlling the American petroleum trade, most of whose magnates have their homes at Cleveland. They manage one of the greatest American monopolies, and the 53,000 oil wells of Pennsylvania and elsewhere that have been and are now producing the fluid render them constant tribute.

It was Moses Cleaveland, a shrewd yet unsatisfied Puritan of the town of Windham, Connecticut, who migrated to what was then known as the "Western Reserve" by a long and toilsome journey beyond the Alleghanies in 1796. His party came through New York State and embarked on Lake Erie, landing on the southern shore. They explored the coast, and, selecting the mouth of the Cuyahoga as a good place to locate, Moses sent word back that they had found a spot "on the bank of Lake Erie which was called by my name, and I believe the child is now born that may live to see that place as large as old Windham." "That place" has grown far beyond his wildest dream, for Cleveland now has 200,000 people, the canals and railways having done the work of expansion during the last half-century. One of the not very aged antiquaries of this yet youthful city has been delving into the records of the past to find out what was the immediate reason in-

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ducing several of the prominent townsmen to make their homes at Cleveland. He has discovered the following :—" One man on his way further west was laid up with the ague, and had to stop ; another ran out of money, and could get no further ; another had been to St Louis and wanted to get back home, but saw a chance to make money in ferrying people across the river ; another had $200 over and started a bank ;: while yet another thought he could make a living by manufacturing ox-yokes, and he stayed." He continues :—" A man with an agricultural eye would look at the soil and kick his toe into it, and then would shake his head and declare that it would not grow white beans—but he knew not what this soil would bring forth ; his hope and trust was in beans, he wanted to know them more, and wanted potatoes, corn, oats, and cabbage, and he knew not the future of Euclid-avenue." The centre of Cleveland is the Monumental Park, a pretty open space of 10 acres, laid out with fountains, monuments, and gardens, and a little lake, and intersected at right angles by two broad streets. One of these is Superior-street, the chief business highway of the city. The other leads down to the edge of the bluff on Lake Erie, where the steep slope is made into a pleasure ground, with fountains and flower-beds, and a fine outlook over the lake, marred, however, by the ever-present locomotives shunting their trains at the water's edge beneath one's feet, and sending up prodigious quantities of smoke and soot. Far out under the lake is bored the waterworks tunnel, as at Chicago.

From a corner of the Monumental Park extends far away to the eastward the famous residential street of Cleveland, of which its people are so proud—Euclid-avenue. They deservedly regard it as the handsomest street in America. for no other

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city can show anything like it in the combined magnificence of houses and grounds. It is a broad and level avenue of about 150ft. width, with a moderately wide roadway and stone footwalks, bordered by lawns and shaded by grand rows of elms. On either hand a light railing marks the boundary between the highway and the private grounds. For almost two miles the street is bordered by stately residences, each surrounded by ample lawns and gardens, the stretch of grass and flowers and foliage extending back 100ft. to 400ft. from the street to the houses. Embowered in foliage, and with every delight of garden and lawn, seen in all directions, this grand avenue makes a delightful driveway and promenade. Upon the northern side of this splendid street live the millionaires of Cleveland, who have expended not a little of the profits of their railways, mines, oil refineries, and mills for the adornment of their luxurious dwellings and the ornamentation of their city. On the southern side the houses are less pretentious. This street is in one way a reproduction of the avenue of the Champs Élysées, but with more attractions in the architecture and surroundings of the bordering rows of palaces. Each resident vies with his neighbours in keeping up the grandeur of the street, and here live the wealthy men who rival those of Chicago in controlling the commerce of the lakes. It requires plenty of room to give each man in the heart of a city from two to 10 acres of lawns and gardens around his house, but they have done it here with eminent success. In one of these Cleveland palaces, surrounded by a miniature park, grandly yet comfortably lives Senator Henry B. Payne, a leading proprietor of the Standard Oil Company, and prominent Ohio Democrat, who is said to hold the costliest of the high-priced seats in the Upper House of the Ame-

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rican Congress. Cleveland's pride is Euclid-avenue, and to get a home there is among the highest ambitions of her people. This noted street, several miles out, leads to the attractive Lake View Cemetery, where on the highest part of the elevated plateau are the grave and monument of James A. Garfield, the assassinated President.

Eastward from Cleveland the Lake Shore route gradually rises above the Lake Erie level and passes a short distance inland from the coast. The southern shore of the lake is a broad terrace at an elevation of 80ft. to 100ft. above the water, while several miles inland there is another and somewhat higher plateau. Each sharp declivity appears to have been at one time the actual shore of the lake, when its surface was much higher than now. The outer plateau, having once been the bottom of the lake, is level, and has thus aided railway construction, for the line is laid many miles along it and at a considerable distance inland, the hazy blue of the freshwater ocean being occasionally visible through openings in the timber, or down the ravines deeply cut into the tableland by the crooked yet attractive rivers over which the railway passes upon airy bridges. After moving swiftly among the vineyards plentifully planted near Cleveland, the station of Mentor is passed, 23 miles from the city, where, in a modest house not far from the railway, President Garfield lived. A few miles beyond the Grand River runs through a deep and picturesque ravine, across which a high viaduct carries the line, and here is the town of Painesville, recalling the memory of Thomas Paine. Numerous flourishing villages are passed, some showing evidence of manufacturing activity, and each having its railway leading from the coal fields to the southward, to bring cheap fuel. As the border between Ohio and Pennsylvania is ap-

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proached, the train halts a moment at Conneaut on the bank of a wide and deep ravine formed by a small river. Upon this little stream in 1796 landed from Lake Erie the earliest settlers from Connecticut who came into Northern Ohio. It is called sometimes the "Plymouth of the Western Reserve," but is only a moderate village, showing that the migratory spirit of the colonists led most of them to seek better locations elsewhere.

The "Keystone State" has a projecting corner thrust out to the lake between Ohio and New York, giving it about 40 miles of coast line and a good harbour at the city of Erie, so that the railway soon crosses the border into Pennsylvania. The line has plenty of goods traffic, and the pungent odour of the passing oil tank cars shows the proximity of the petroleum fields which lie behind the hills that loom up towards the south-east and send out numerous railways to the lake ports. Erie county, in Pennsylvania, presents a view of broad farms and big barns upon its almost level surface near the lake, and we soon run into the city of Erie among the rows of wooden houses that make its outer edge, as they do the chief part of most of the towns bordering the lake. It is built upon the plateau extending back from the bluff fronting the water, and its proximity to the coal and oil fields, with the railway and water navigation facilities, have made it an important centre of manufactures and commerce. The Erie harbour is the best on the lake, being enclosed by the natural formation of Presque Isle, lying in front of the city and formerly a peninsula; and it has been additionally protected by a breakwater, so that there is a natural basin a mile wide and nearly four miles long. There are large docks and elevators, and extensive arrangements for transshipment between vessel and railway, and great

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quantities of timber, coals, corn, and ores pass through the town. The French were the early settlers here and built the Fort de la Presque Isle in 1749, and their industrious successors under American auspices now number 40,000.

Through a region of orchards and vineyards the Lake Shore route passes quickly east of Erie, across the narrow strip of Pennsylvania, to the border line of New York, and enters Chatauqua county. This was the land of the "Chats," a warlike tribe of Indians, to whom the French gave that name because their region also abounded in wild cats. They were called in their own parlance the "Eries," or the tribe of the cat, and hence named the lake. Three centuries ago they were a most formidable tribe and could muster 2,000 warriors; but frequent wars decimated them, and in 1656 the Iroquois attacked and almost annihilated them, the remnant being ultimately incorporated with the Senecas of New York. They inhabited the shores of the lake and the Niagara River. Across Chatauqua there is a high ridge, and the surface between it and Lake Erie is almost level and very fertile. Just south of the most elevated portion of this ridge is the noted Chatauqua Lake, a charming sheet of water 18 miles long and elevated 730ft. above Lake Erie. The narrowness of the watershed is shown by this elevated body of water draining away from Erie into the Alleghany River, which flows southward to form the Ohio River at Pittsburg. These waterways make boat navigation possible from the Gulf of Mexico to within 10 miles of Lake Erie. This region is a popular summer resort, and the "Chatauqua Assembly" has established there a unique method of attracting crowds to a watering-place. They have opened the "Summer School of Philosophy," a college of the liberal

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arts, with a faculty gathered from the teachers of some of the leading American Universities. Upon this are engrafted schools of theology, music, and art, and regular series of lectures are given throughout the season. The Assembly enclosure has a fine position fronting the lake, and besides the great hotel there are 1,500 tents and cottages of all kinds, some being costly structures. There is an elaborate boat-landing, with a chime of bells in its tower, and a model of Palestine on the lake shore assists the theological student. A natural glen which runs up into the higher grounds back from the lake has at its upper end been roofed over, and this makes the great Assembly-hall, where 5,000 people can sit and listen to the lectures. This is the Chatauquans' "Liberty-hall," and not far away are the "Hall of Philosophy," a Grecian structure of wood used for smaller meetings, the "College of Arts," and other similar buildings. It is said that 50,000 people will attend during the season, and often 20,000 to 30,000 are there at one time, mainly gathered from the most intelligent elements in the American churches, with young people predominating. They vary instruction with amusement, and what is known as the "Chatauqua idea" has been imitated at several other places in the States. But none have selected a more charming location, although the varied Indian meanings of the word "Chatauqua"—the "place of easy death," and the "foggy place" (from the mists arising from the lake) are thought to have been premonitions of some of the abstruseness of the present race of philoscphers. The hills surrounding Chatauqua loom up as we pass through Dunkirk, another harbour on Lake Erie with a town of 5,000 people, which is a terminal of the Erie Railway. The monotonous level of the land

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continues beyond, and the railway gradually turns northward around Lake Erie's eastern end, though descending nearer its level. The Canadian shore can be dimly seen across the water, as the lake narrows towards its narrow outlet into Niagara River, and we soon run over the meadows and water-courses and in among the elevators and factories and mass of railway terminals surrounding Buffalo.

This great city of Western New York has had a career coeval with the present century, having been founded in 1801. In early history it was mainly a military post, and did not assume commercial importance until after the opening of the Erie Canal. The growth afterwards was rapid, for its eligible position at the point where the lake commerce had to connect with the canal and the railways leading to the seaboard have given full scope to its enterprise and made Buffalo a large and wealthy city. The country immediately surrounding is gridironed by railroads and their yards, shops, freight-houses, timber piles, elevators, cattle pens, and other paraphernalia, spread along the water front and the sinuosities of Buffalo creek and over broad stretches of the level land behind. There are 250,000 people gathered in this industrious city, and the extensive commerce is varied by iron manufactures, brewing, and other works, but the railroad and canal business seems to overshadow everything else. Buffalo has wide, tree-lined streets, and fine public and private buildings, and the observer will soon recognize it as a handsome city. It has also an ambition beyond the mere money-making that results from trade, for the prominent people have got far enough ahead in their accumulations of wealth to cultivate æsthetic tastes, and they are doing this with energy, having a series

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of attractive parks, connected by boulevards planted with rows of thrifty young elms. In the newer parts of the town the level surface is filled with ornamental houses, some of them most expensively constructed and elaborately adorned. The residents in these houses, as is generally the case in American cities, like to show their buildings and grounds to the public, for the well-kept lawns and gardens are fully open to view, and many of them are entirely unenclosed. Delaware-avenue thus bordered is one of the finest streets.

But probably the place most worth seeing in Buffalo is the little park out at the edge of Lake Erie, where it discharges into the Niagara River. The flat surface at the verge of the water is occupied by the basins and harbour that make the beginning of the Erie Canal, and alongside is a railway, its swift trains contrasting with the deliberate movements of the canal barges that are starting on the long, plodding journey to carry their corn cargoes across New York State to the Hudson River. Alongside the railway a steep bluff rises about 60ft., and this continues around along the bank of Niagara River, where it is crowned by an earthwork surrounding the remains of Old Fort Porter, a dilapidated stone relic of bygone times. A couple of superannuated field-pieces stand here, with their muzzles pointing across the river towards Canada, but otherwise the place looks peaceful. A company of troops are at this post, it is supposed to keep watch upon Fort Erie over on the Canadian side, a few hundred yards away, but they were engaged in the harmless pastime of playing football for the delectation of the nursemaids and children of the neighbourhood. To keep watch upon this portion of the border is not a very laborious duty just now, for there has been no warfare here for three-

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quarters of a century, and not even an *émeute*, since, about 20 years ago, the restless Fenians conceived the Hibernian idea of achieving the independence of Ireland by making a foray upon Canada. Then the troops were numerous all about here—the redcoats on the opposite shore and the bluecoats at Fort Porter. Both armies were, however, quiet spectators of the Fenian raid, for no sooner had the invading force embarked on a vessel and got well out upon the lake than the American revenue steamer at this station swooped down upon them, and captured the whole party before they had made a landing on the other side. Upon the plateau adjacent to the fort extensive improvements in the way of building barracks are now being made, so that the post can, if necessary, accommodate a considerable body of men. From the edge of the bluff there is an admirable view, far away over Buffalo Harbour, with its protecting breakwater, and the broad expanse of Lake Erie beyond. To the right hand the Canadian shore is spread out at one's feet, and down the Niagara River the light trusses of the International Railway-bridge span the swift current and the Erie Canal alongside, its draw opening and closing for the passage of steamboats. Into the narrow river sweeps the entire drainage of the great lakes, an enormous volume of water, right in the centre of which the city has planted a crib to tap the current for its water supply. This vast mass of water flows northward with a speed of six or seven miles an hour to soon pour over Niagara Falls, 20 miles away.

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XXXII.—THE FALLS OF NIAGARA.

The original Americans—the Red Indians—who first looked upon the world's greatest cataract gave the best idea of it in the name, the "Thunder of Waters." Father Hennepin, the first white man who saw it, impressively said, "The universe does not afford its parallel." Upon Charles Dickens the first and enduring effect, instant and lasting, of the tremendous spectacle was "Peace—peace of mind, tranquillity, calm recollections of the dead, great thoughts of eternal rest and happiness." Upon Professor Tyndall it had a sanative effect; for, "quickened by the emotions there aroused," he says, "the blood sped exultingly through the arteries, abolishing introspection, clearing the heart of all bitterness, and enabling one to think with tolerance, if not with tenderness, on the most relentless and unreasonable foe." It is a difficult task to describe the Falls of Niagara, and few attempt it without drawing upon romance and poetry, for in most men it inspires both. This vast "Thunder of Waters" is equally impressive both upon sight and hearing, and is one of the few great natural curiosities that are not disappointing at first sight. This view usually comes to most observers from the airy suspension bridge thrown across the chasm just below the American Fall, which gives an idea of the whole cataract at a

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glance. From this bridge, and from the Canada side, the whole scene is before you, and the impression is quickly given that no description can exaggerate Niagara.

No setting in the way of charms of natural scenery is provided for this jewel. The Niagara river flows northwards from Lake Erie through a flat plain, the shores being heavily timbered. The level of that lake is 564ft. above the sea, and the river, in its tortuous course of about 36 miles to Lake Ontario, descends 333ft., leaving the level of the latter lake still 231ft. above the sea. More than half the fresh water on the entire globe—the whole enormous volume from the vast lake region of North America—pours through this narrow channel from Lake Erie, with swift current for a couple of miles, but afterwards having somewhat gentler speed as the channel broadens and is divided into two parts by Grand Island. Below this it reunites into a broad stream, sluggishly flowing westward, the surface covered with small, low, wooded islets. About 15 miles from Lake Erie, the river narrows and the rapids begin, their current descending with steadily increasing velocity. Above the Falls for almost a mile, these rapids flow with great speed, and in this distance descend 52ft., their channel being divided by Goat Island, just at the brink of the falls, where the river makes a right-angled bend from the west back to north. This island separates the waters, although nine-tenths of the current probably goes over the Canadian fall, which the sharp bend in the river curves into horseshoe form. This fall is about 158ft. high, while the height of the American fall is 164ft. The two cataracts make a diagonal line across the river, ending in a curve on the western side, and spread out to a breadth of about 4,750ft., the steep wooded bank of Goat Island, which separates them,

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occupying about one-fourth of the distance, so that the American fall is about 1,100ft. wide and the Canadian fall twice that breadth, the actual line of the descending waters on the latter being much longer than the width of the river by reason of its curving form. Just below the cataract, the Niagara river is contracted to barely 1,000ft., winding to about 1,250ft. beneath the suspension bridge. On both sides the river banks rise perpendicularly to the level of the top of the falls, and for seven miles below, the gorge is thus carved out, becoming deeper and deeper as the lower rapids descend towards Lewiston, and in some places being contracted within very narrow limits. Two miles below the falls the river is barely 800ft. wide, and at the outlet of the Whirlpool, a mile further down, where another sharp right-angled bend is made, the enormous current is contracted within a space of less than 250ft. In the distance of seven miles, these Lower Rapids descend about 104ft., and then, assuming a gentler current, the Niagara river flows a few miles further northward to Lake Ontario.

Ninety thousand millions of cubic feet of water are estimated as pouring over Niagara every hour, and this vast current, steadily wearing away the rocks over which it descends, has during past ages excavated the gorge through which the Lower Rapids flow. The surface of the land, which at Lake Erie is low and scarcely rises above the level of its waters, gradually becomes more elevated towards the north, till near Lewiston it is about 40ft. above Lake Erie. The general northern course of the Niagara river is thus in the direction of the ascent of this moderately-inclined plane. Beyond this the surface makes a sudden descent towards Lake Ontario of 250ft. down to a plateau, upon which stands Lewiston on the Ame-

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rican side of the river and the village of Queenston on the Canadian side. There is thus formed a bold terrace looking out upon Ontario, from which it is seven miles away, and from the foot of the terrace the surface descends gently 120ft. to the lake shore. The gorge through which the river flows is 366ft. deep at this terrace. During the brief time that observations have been made great fragments of rocks have been repeatedly carried down by the current, thus causing not only a recession of the cataract, but also decided changes in its appearance. Table Rock, once a striking feature of the Canadian shore, has wholly disappeared, and last spring huge masses of rock fell down which caused a further recession on the Canadian bank. During 45 years past the New York State Geologists have been closely watching these changes, and the average rate of recession is about a foot annually. In the sketch made by Father Hennepin, when he saw the falls in 1678, there was a striking feature which has entirely disappeared, a third fall on the Canadian side, facing the line of the main cataract, and caused by a large rock that turned the divided fall in this direction. This rock fell during the last century. The rate, however, at which changes occur is not uniform. For several years there may be no apparent change, and then the soft underlying strata being gradually worn away, great masses of the upper and harder formations fall down, causing noticeable changes in a brief period. At the present location of the cataract, sheets of hard limestone rock cover the surface of the country, and form the edge of the falls to about 80ft. or 90ft. depth. Under this are shaly layers extending to the foot of the cataract. All the strata slope gently downward against the river current at the rate of about 25ft. to a mile. In the rapids above the falls the limestone

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strata are piled one over the other, till about 50ft. more is added to the formation, when all disappear under the outcropping edges of the next series above, composed of shales and marls. Through these piles of strata the river has worked its way back, receding probably most rapidly, where, as at present, the lower portion of the cutting was composed of soft beds, which, being hollowed out, let down the harder strata above. The effect of the continued recession must be to diminish the height of the falls, both by the rising of the river bed at their base, and by the slope of the surmounting limestone strata to a lower level. The geologists say that a recession of two miles further will cut away both the hard and the soft layers, and the cataract will then become almost stationary on the lower sandstone formation, with its height reduced to about 80ft. This prospective diminution in the attractions of Niagara might be startling were it not estimated that it cannot be accomplished for some 12,000 years. Till then the grand cataract will probably continue the chief American attraction for foreign visitors.

But, grand as the falls are, Niagara's interest does not concentrate upon them alone. There are other spectacles—the islands scattered among the rapids—their swiftly-flowing foaming current rushing along—the remarkable gorge below the cataract, a chasm through which the river cuts its way for miles, its torrent making the lower and grandest rapids running into the whirlpool basin with its terrific swirls and eddies. These join in making Niagara's colossal exhibition, and present specimens of scenery drawn from everywhere, over which come the rainbows, and the brilliant green and rose tints, as sun and cloud upon spray and water give light and shadow. Added to all is

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given the idea of the resistless powers of Nature and of the elements which is sublimity itself. No place is better fitted for geological study, and by day or night the picture presents constant changes of view, exerting the most powerful influence upon the human mind. Goat Island, between the two falls, is the most interesting place, covering with the adjacent islets about 60 acres, and it was long a favourite Indian cemetery. Efforts have been made to romantically rebaptize it as Iris Island, but it nevertheless keeps the old name, given it from the goats kept there by the original white settlers. It was from a ladder 100ft. high, elevated upon the lower bank of this island near the edge of the Canadian fall, that Sam Patch in 1829 successfully jumped down the falls of Niagara. Not content with this exploit, he afterwards made a higher leap of 125ft. at the falls of the Genesee river at Rochester, in New York State, was drowned, and his body never was recovered. From the American side a bridge leads to Goat Island, which is carefully preserved to exhibit all the wonders of the falls. At its upper point is the bar extending up the river channel, dividing the American from the Canadian rapids. On the American side a footbridge leads to the pretty little Luna Island standing at the brink of the cataract and dividing the waters. The narrow channel between these two islands makes a miniature waterfall, under which is the "Cave of the Winds." Here the visitor goes "under Niagara," for the space behind the waterfall is hollowed out, and amid the spray and the rushing winds an idea can be got of the effect produced by the greater cataracts. Here are seen the rainbows formed by the sunlight on the spray in complete circles; and the cave, which is fully 100ft. high, and is recessed as far into the wall of the cliff,

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gives an excellent example of the undermining process constantly resulting from the action of the waters.

On the other side of Goat Island, at the edge of the Canadian fall, footbridges lead out over the honeycombed and water-worn rocks to the brink of the horseshoe. From this place, with rushing waters on either hand, and amid an almost deafening roar, can be got probably the best near view of the greater cataract. Here are the Terrapin Rocks and on them stood the Terrapin Tower, which was destroyed a few years ago. The fragments of table rock and the adjacent rocks which have fallen lie at the base of the chasm on the Canadian side, with vast volumes of water beating upon them. On the Canadian side of Goat Island, in the midst of the rapids, are the pretty little islands known as the "Three Sisters," and their diminutive "Little Brother," with miniature cascades pouring over the rocky ledges between them—a charming sight that can be taken advantage of by the footbridges thrown across. The steep descent of the rapids can here be realized, the foaming torrent plunging down from far above one's head, and quickly rushing beneath one's feet. This region has seen some terrible disasters and many hairbreadth escapes. The mass of water pouring over the cataract on the Canadian side is known to be fully 20ft. deep, and it tumbles from all around the deeply recessed horseshoe into an apparently bottomless pool, no one having yet been able to sound its depths. In 1828 a condemned ship from Lake Erie was sent over this fall. She drew 18ft. of water, and passed clear. There were put among other things upon her deck a black bear and a statue of Andrew Jackson. The ship was smashed to pieces; the bear was killed; but the first thing seen after the terrible

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plunge was Jackson's statue popping headforemost up through the waters, unharmed. It was considered a favourable omen, for that autumn he was elected President of the United States, and filled the office eight years.

The surface of the Niagara river just below the cataract, curious as it may seem, is comparatively calm, and the tiny steamer Maid of the Mist makes a ferry, taking advantage of the eddies to take visitors across, passing almost under the overhanging mass of foaming, roaring, and descending waters. Just below this is the Suspension-bridge, on a level with the top of the falls. Looking from it down the river, the deep and narrow gorge stretches far away, curving gradually to the left, with two ponderous railway bridges in the distance thrown across it. The water flows swiftly down, with occasional eddies, its colour under the sunlight a brilliant green, the gorge steadily deepening, the channel narrowing, and the river at the railway suspension-bridges beginning its headlong course down the Lower Rapids, leading to the whirlpool. With the speed of a railway train the current rushes under these bridges, which are elevated about 245ft. above the surface of the water, showing that the descent has already considerably deepened the gorge. It tosses, foams, and rolls in huge waves, buffeting the rocks, and thus continues to the whirlpool. The bridges give a magnificent outlook upon these rapids, and inclined plane railways, constructed upon the precipitous banks, let the visitor down to the water's edge, where it is almost painful to watch the torrent, its tempestuous speed and whirl usually making one giddy. The centre of the stream is elevated far above the sides, the waves in these rapids rising 30ft. at times, rushing in all directions and coming together with

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tremendous force. The huge boulders that have fallen in earlier ages evidently underlie the torrent. In these rapids several daring spirits, notably Captain Webb, have attempted unprotected to swim the river, and have paid the penalty with their lives. More recently, however, the rapids have been safely passed in casks peculiarly constructed, but the few who have done it got such rough usage that they are not anxious to repeat the novel voyage. The whirlpool at the end of the rapids is a most extraordinary formation. The torrent runs into an oblong pool, broadened into an elliptical basin, the outlet being at the side through a narrow gorge not 250ft. wide, above which the rocky walls tower for 300ft. Into this basin the waters rush from the rapids, their current pushing to its furthest edge, and then, rebuffed by the walls of the chasm, they return in an eddy on either hand. Round and round these eddies steadily circle, and timbers that have come down the rapids sometimes swim there for days before they get to the outlet. The eddy on the left-hand side of the pool whirls about without obstruction, while that on the right-hand, where the outlet is, rebounds upon the incoming torrent and is thrown back in huge waves of mixed green and foam, the water finally rushing out through the narrow gorge, and on down to Lake Ontario. It is a terrible place, and in its way as impressive as the cataract.

Niagara in former times was as noted for its extortions as for anything else. All the shores had been seized upon by people who charged round prices for a view of cataract or rapids. Excepting upon a portion of the Canada side the river banks were carefully enclosed by walls, fences, and foliage, so as to prevent a glimpse of the water without paying. This policy excited such fierce criticism that

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the two nations united in a movement to make the strip of territory adjoining the falls and rapids on each side a public reservation, and the process of emparking the borders of this great natural curiosity, and removing the buildings and obstructions so as to give a free view to all the world, is now going on. Lord Dufferin, who had his attention called to the subject by Mr. Church, the American artist, when he was Governor-General of Canada, first proposed this international park. The proposal resulted in a memorial, signed by many eminent Englishmen and Americans, addressed to the Canadian Governor-General and the Governor of New York, asking that they should "secure and hold for the world's good the lands adjacent to the Falls of Niagara." The necessary laws were passed three years ago, and the plan now being carried out includes making a park on the American side about one mile long, and of varying width from 100ft. at the head of the upper rapids to 800ft. at the falls. Everything that obstructed the view of rapids or falls has been removed. A similar policy is being pursued on the Canadian bank, where the best view of the cataract is had. The work upon the American "Reservation," as it is called, has so far progressed that the New York Commission in charge expect to have all the projected improvements completed in time to formally open the grounds next season. The work of improvement on the Canadian side only recently began, as they did not get possession of the private property until this autumn. The road which has always existed at the edge of the bank on that side provided an excellent and unobstructed view. The projected Canadian improvement includes the removal of most of the buildings adjacent to the cataract, and the establishment of a park at the

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edge of the river, with a driveway further inland. Both Governments intend as nearly as possible to restore the locality to a state of nature, permitting nothing artificial to distract the attention. Until recently Niagara was practically "fenced in," and to get any view of cataract or rapids it was necessary to pay fees. Two shillings was the universal charge, and it was multiplied at every point until the frequency of payment became not only a tax, but an annoyance. Now everything is free and open in the neighbourhood of the mighty cataract. Goat Island and Prospect-park have become the property of New York State, and the many magnificent points of outlook from various parts of these grounds can be reached without charge. The old shanties and mills that disfigured the islands in the American rapids, and got out of Niagara a small portion of the water power running to waste, are all removed. Stout walls and railings protect the visitor in dangerous places, and roads and paths have been opened, but otherwise the entire grand scene is as Nature made it. All about these places in romantic nooks are seen the newly-married couples, who start their life journey by taking the fashionable American wedding tour to Niagara; and it is gratifying to know that the joint action of the two Governments has cheapened its cost.

But the work of possible improvement will not be finished until a good deal more is done for public protection. The mills, chiefly for paper-making, remain on the American side, perched on top of the bank below the airy suspension bridge, and their tail-races plunging down the perpendicular face of the cliff present a series of miniature cascades that are quite picturesque. This is a reminder that the greatest water power in the world thus runs almost idly away, and that vast projects are being thought upon for its utiliza-

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tion. With these few exceptions, the millwrights, perhaps as a tribute to Nature's majesty and grandeur, have kept away from Niagara. The enterprising city of Buffalo, however, wants in some way to turn this magnificent power into a path of usefulness, and her business men have recently joined in an offer of £20,000 for the discovery of the best appliance to utilize the power of the Niagara river and falls so economically as to make it practically available for manufacturing in their city. No scheme of improvement should stand in the way of this, but there is still a field for further reform. The whirlpool rapids and the whirlpool itself are still fenced in, and good service could be done, especially on the Canada side, if the portions of the bank were freed that are still held as private preserves. It continues to be a swindle to be taxed two shillings for a peep at these great curiosities, and for a ride down to the water's edge upon an inclined plane railway which three pence would well pay for. Let the good work go on, and free the whirlpool, which with its outlet is best seen from the Canadian shore. There is also a field for missionary work yet open at Niagara for the civilization of its hackmen, and the curtailment of the impertinence of its curiosity sellers and photographic touters. These people continue the same barbarians as of yore, but it is possible to avoid them. The New York authorities have done good service in establishing a coach line on that side of the river and around Goat Island at a moderate charge. Thankful for the good that has been done, I must record the decided advantage it is, in these regenerate days for Niagara, to be able to go about the falls without continually tapping the pocket at the insatiate demands of an army of toll gatherers.

To get the best view of Niagara requires a bright

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day, when the green tints are the most marked, and a wind which, while not blowing the spray too much away, will still dissipate it sufficiently to prevent serious obscuration. Under these conditions the sublimest exhibition is from the Canadian shore near the suspension bridge. Here, from an elevation, the upper rapids can be seen flowing towards us to the brink of the cataract. In the distance the Canadian shore curves around from the westward fringed with trees. In front rise the dark and precipitous cliffs of Goat Island, surmounted by foliage which the spray keeps constantly green. The Canadian rapids come towards the brink, an almost unbroken sheet of foaming waters, but the narrower rapids on the American side are closer, and have a background of little islands with torrents foaming between. The currents passing over the American fall seem shallow, compared with the solid masses of bright green water pouring down the Canadian horseshoe. There, on either hand, is an edge of foaming streams, looking like clusters of constantly-descending frosted columns, with a broad and deeply-recessed bright green central cataract that gives the impressive idea of millions of tons of solid water pouring into an abyss, the bottom of which is obscured by fleecy and seething clouds of spray. On either side, dark brown water-worn rocks lie at the base, while the spray bursts out in mammoth explosions, like exaggerated puffs of white smoke suddenly darting from whole parks of cannon. The water appears to come over the brink comparatively slowly, then falls with constantly accelerated speed, the colours changing as the velocity increases and air gets into the torrent, until the original bright green becomes a foaming white, which is quickly lost behind the clouds of spray beneath. These clouds slowly rise in a thin

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transparent veil far above the cataract. From under the spray the river flows towards us, its eddying currents streaked with white, and looking not unlike the foam-lines left on the seashore by receding breakers. The little steamboat carries the venturesome passengers over the ferry in crooked course among the eddies. Closer to us, on the left hand, the American fall appears a rough and broken cataract, almost all foam, with green tints showing through, and at intervals along its face, great masses of water spurting forward through the torrent, as a rocky obstruction may be met part way down the cliff. The eye fascinatingly follows the steadily-increasing course of the waters as they fall from top to bottom upon the piles of boulders faintly seen through the spray clouds. Adjoining this American cataract is the water-worn wall of the chasm, made of dark red stratified rocks, looking as if cut down perpendicularly by a knife, and whitening towards the top, where the protruding limestone formation surmounts the lower sandstones. Upon the faces of these cliffs can be traced the manner in which the water in past ages gradually carved out the gorge, while at their base the fallen fragments lie in heaps along the river's edge. Through the deep and narrow pass the greenish waters move away under the suspension bridge hanging lightly above. This is Niagara by bright daylight, the steadily falling, foaming, and roaring waters having an almost irresistible fascination. As night gradually falls, the view is dimmed, but the steady roar remains, and as the clouds of spray increase and form a mantle over the fading scene, the power of the mighty cataract seems to multiply. Both by day and night, the lover of the sublime can watch and listen for hours at the pouring torrent, while the wind blows the refreshing spray gently

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upon the face, for the ever-changing views presented by this world's wonder make an impression upon the mind unlike anything else in Nature.

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